"APPROVED FOR RELEASE: 06/05/2000 CIA-RDP86-00513R000100710012-9

KOSTROV, M.F.; BIRYUKOV, V.G.; SIROTINSKIY, L.I.; KISLOV, A.N.; KOZHUKHOV, V.K.; AKOPYAN, A.A.; MEL'KUMOV, A.M.; LARIONOV, V.P.

Professor G.V.Butkevich. Fiftieth anniversary of his birth. Elektrichestvo no.10:92 O '53. (MLRA 6:10)

(Butkevich, Georgii Vladimirovich, 1903-)

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"APPROVED FOR RELEASE: 06/05/2000 CIA-RDP86-00513R000100710012-9

AKOPYAN, A. A.

AID P - 628

Subject : USSR/Electricity

Card 1/1 Pub. 27 - 32/35

Author : Vorob'yev, A. A., Doc. of Phys.-Math. Sci., Prof. and eight others

Title : Akopyan, A. A. and 6 others: "High Voltage Engineering", Part I, 292 pp., 1951 and Almazov, A. V. and 5 others: "High Voltage Engineering", Part II, 240 pp., 1953. Sirotinskiy, L. I., General editor. - Bibliography

Periodical : Elektrichestvo, 8, 91-93, Ag 1954

Abstract : The above book was admitted by the MVO (Ministry of Higher Education) as a textbook for power engineering and electric engineering institutes and faculties of higher education. An extensive review and some criticism of the book is presented as well as a reply by the editor and authors of the book.

Institution : Tomsk Polytechnical Institute im. Kirov

Submitted : No date

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"APPROVED FOR RELEASE: 06/05/2000 CIA-RDP86-00513R000100710012-9

AKOPYAN, A.A.

AID P - 940

Subject : USSR/Electricity

Card 1/1 Pub. 27 - 9/25

Authors : Akopyan, A. A., Kand. of Tech. Sci., Gurvich, N. G., Kand. of Med. Sci., Zhukov, I. A., Eng., Negovskiy, V. A., Doc. of Med. Sci.

Title : Possibility of cardiac resuscitation by means of impulses during ventricular fibrillation

Periodical : Elektrichestvo, 10, 43-49, O 1954

Abstract : Experiments with de-fibrillation of dogs' hearts are described and optimal impulse characteristics were determined. Possibilities of application to the human organism are discussed. A description of the de-fibrillator, generating electric impulses is given. Ten photographs and drawings, 23 references (6 Russian: 1899-1954).

Institutions: All-Union Institute of Electrical Engineering im. Lenin; Laboratory of Experimental Physiology for the Revival of Organisms of the Academy of Medical Sciences

Submitted : Jl 10, 1954

APPROVED FOR RELEASE: 06/05/2000 CIA-RDP86-00513R000100710012-9"

"APPROVED FOR RELEASE: 06/05/2000 CIA-RDP86-00513R000100710012-9

AKOPYAN, A.A., kandidat tekhnicheskikh nauk; LARIONOV, V.P., kandidat tekhnicheskikh nauk; TOROSYAN, A.S., kandidat tekhnicheskikh nauk.

Effect of voltage wave shape on the electrical strength of an air gap. Elektrichestvo no.5:14-21 My '56. (MLRA 9:8)

1. Vsesoyuznyy elektrotekhnicheskiy institut imeni Lenina.
(Electric discharges)

APPROVED FOR RELEASE: 06/05/2000 CIA-RDP86-00513R000100710012-9"

"APPROVED FOR RELEASE: 06/05/2000 CIA-RDP86-00513R000100710012-9

Акоруан, А.А.

621.316.5 621.316.5

583 INVESTIGATION OF SWITCHING SURGES AND CIRCUIT-BREAKER DUTY IN THE K[illegible] TRANSMISSION [illegible]

Transmission system conditions which are considered [illegible] and in connection with overvoltages and circuit-breaker operation are examined. These include switching-off a no-load transformer disconnecting a shunting reactor switching in parts of 400 kV transmission line and disconnecting a line or no-load from the transformer and disconnecting a line charged by a shunting reactor.

Central Electricity Generating Board Digest

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"APPROVED FOR RELEASE: 06/05/2000 CIA-RDP86-00513R000100710012-9

FOTIN, V.P.; AKOPYAN, A.A., red.; ANDRIANOV, K.A., red.; BIRYUKOV, V.G., glavnyy red.; BUTKEVICH, Yu.V., zamestitel' glavnogo red.; GRANOVSKIY, V.L., red.; KALITVYANSKIY, V.I., red.; KLYARFEL'D, B.N., red.; KRAPIVIN, V.K., red.; TIMOFEYEV, P.V., red.; FASTOVSKIY, V.G., red.; TSEYROV, Ye.M., red.; SHEMAYEV, A.M., red.; DEMKOV, Ye.D., red.; FRIDKIN, A.M., tekhn. red.

[Voltage increase on long a.c. lines during nonsymmetric short circuits to ground] Povysheniia napriazhenii v dlinnykh liniiakh peremennogo toka pri nesimmetrichnykh korotkikh zamykaniiakh na zemliu. Moskva, Gos.energ.izd-vo, 1958. 223 p. (Moscow. Vsesoiuznyi elektrotekhnicheskii institut. Trudy, no.64) (MIRA 12:2)
(Electric lines) (Short circuits)

APPROVED FOR RELEASE: 06/05/2000 CIA-RDP86-00513R000100710012-9"

"APPROVED FOR RELEASE: 06/05/2000 CIA-RDP86-00513R000100710012-9

AKOPYAN, A. A., BURGSDORF, V. V., BUTKEVICH, Y. V., GERTSYK, A. K., GRYUNTAL, Y. L., ROKOTYAN, S. S., and SOVALOV, S. A.

Development of 400-500 kV networks in the Soviet Union,

paper submitted for presentation at the International Conf. on Large Electric Systems (CIGRE) - 17th Biennial Session - Paris, France, 4 - 14 June 1958.

Electra, No. 30, Nov 57, periodical news letter issued by the CIGRE, Paris France.

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"APPROVED FOR RELEASE: 06/05/2000 CIA-RDP86-00513R000100710012-9

AUTHORS: Akopyan, A. A., Larionov, V. P. (Moscow) 105-58-6-8/33
Torosyan, A. S. (Yerevan)

TITLE: Distortion of the Voltage-Wave in the Formation of a Discharge in a Wide Air-Gap (Iskazheniye volny napryazheniya pri formirovanii razryada v dlinnom vozdushnom promezhutke)

PERIODICAL: Elektrichestvo, 1958, Nr 6, pp. 33-36 (USSR)

ABSTRACT: Problems of the calculation of voltage wave distortions in the formation of a discharge in a long air-gap are investigated here. The rules governing the change of the current prior to the discharge are the most important of these problems. First the method of investigation is given. A generator for pulse voltages of 3 mV and a capacity in the discharge of 3600 and 7200 uF was used in these investigations. It is shown that the measurement of the current before the discharge with connecting the shunt between plane and earth gives practically the same results as the measurement from the side of the grounded rod when bringing the voltage wave of negative polarity to the plane. Accor-

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ding to authors' opinion, this method is equivalent to that of connecting the shunt on the side of the high--voltage-electrode of the positive rod and at the same time it is essentially more simple since no measuring--instruments for high potential are reuqired. In order to determine the distortion of the voltage wave, the dependence of this current on the voltage must be known. Numerous tests with different forms of the applied voltage wave were carried out for the purpose of determining the connection between the current prior to the discharge and the voltage in the discharge-gap between the positive rod and the plane. It was found that the current prior to the discharge is approximately expressed by the formula (1). This formula renders correctly the physical aspect of the phenomenon. The current prior to the discharge takes place under the condition that the voltage in the gap exceeds the break-down voltage of the gap-part which is not disturbed by the leader (lider). The dependence given in reference 3, which correlates the instantaneous

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velocity of development of the discharge-leader with an instantaneous voltage-value in the discharge-gap and the length of that part of the gap which is not disturbed by the leader-canal, as well as the formula (1) make it possible to determine - by way of calculation - the form of the voltage wave distorted by the process before the break-down and the corresponding discharge-time of the generator of the impulse-voltages on the air-gap- if the wave-shape with the free-motion of the generator (non-distorted wave) is known. Neglecting the reactance in the discharge-circuit, the calculation presents no difficulties and is carried out according to the method of the successive intervals, analogous to the calculation of the leader-velocity and to the time prior to the discharge in reference 2. The measurements carried out according to the method given here furnish a satisfactory conformity with the test for unipolar waves of different form. There are 5 figures and 5 references, 4 of which are Soviet.

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"APPROVED FOR RELEASE: 06/05/2000 CIA-RDP86-00513R000100710012-9

Distortion of the Voltage Wave in the Formation of a Discharge in a Wide Air-Gap

105-58-6-8/33

SUBMITTED: October 8, 1957

1. Electric discharges--Analysis 2. Electric currents--Performance
3. Pulse generators--Performance

Card 4/4

APPROVED FOR RELEASE: 06/05/2000 CIA-RDP86-00513R000100710012-9"

"APPROVED FOR RELEASE: 06/05/2000 CIA-RDP86-00513R000100710012-9

8(2)
AUTHOR: Akopyan, A. A. SOV/105-59-6-17/28

TITLE: A Circuit for the Production of Potential Waves of Special Shape (Skhema dlya polucheniya voln napryazheniya spetsial'noy formy)

PERIODICAL: Elektrichestvo, 1959, Nr 6, pp 76-77 (USSR)

ABSTRACT: In the practical work of high-voltage laboratories there arises often the need of testing different insulations under the action of pulsed voltages of standard shape (1.5 - 3/40-50 μsec) and of other shapes as shown in figure 1. A unipolar wave with a superimposed high-frequency oscillation (Fig 1b) and a partly clipped wave (Fig 1c) are shown. The circuit presented in figure 1a is the simplest one giving such waves. It is also used in the Laboratory of Excessive Voltages of the VEI. It only requires a spark gap IP and an induction coil L, which is connected to the voltage U_1. This voltage equals the amplitude of the superimposed oscillations. The mode of action is very simple. If the pulse generator trips the voltage across the spark gap rises to U_1. The spark gap breaks down and in the oscillatory circuit thus produced there are generated

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oscillations with the amplitude U_1 and the frequency

$f \approx \frac{1}{2\pi} \sqrt{\frac{n_1}{LC}}$, Where n_1 is the number of condensers shunting the inductivity L and C the capacity of each condenser. The inductivity of the induction coil is chosen according to the desired oscillation frequency. The voltage of the oscillatory circuit and the voltage of the non-shunted part of the pulse generator add and deliver a wave with superimposed oscillations at the output (Fig 1b). If a very small attenuation of the high-frequency oscillations is required, the damper winding R in the shunted part of the pulse generator must be shortened. If it is necessary that the spark gap trips without retardation, which is required in most cases, the use of spherical electrodes of a suitable diameter is recommended. The generation of a partly clipped wave is even simpler. In this case no induction coil is required and the corresponding lower part of the pulse generator is shunted only by the spark gap, which should not be fitted with spherical electrodes, but with

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rod electrodes. Their distance is adjustable, thus permitting time regulation before discharge and the moment t_1, in which the wave is partly clipped with a fair accuracy. In figure 2 the oscillograms of waves of both types are shown. They were obtained with a 3000 kv pulse generator of the VEI by using the method presented herein. There are 2 figures.

ASSOCIATION: Vsesoyuznyy elektrotekhnicheskiy institut im. Lenina (All-Union Institute of Electrical Engineering imeni Lenin)

SUBMITTED: February 16, 1959

APPROVED FOR RELEASE: 06/05/2000 CIA-RDP86-00513R000100710012-9"

"APPROVED FOR RELEASE: 06/05/2000 CIA-RDP86-00513R000100710012-9

GURVICH, N.L., doktor med.nauk; AKOPYAN, A.A., prof.; ZHUKOV, I.A., inzh.

Constant magnitude of an injurious electric current. Vop.elektropat. i elektrotrav. 1:15-21 '61. (MIRA 15:10)

1. Iz laboratorii eksperimental'noy fiziologii po ozhivleniyu organizma (zav. - prof. V.A.Negovskiy) AMN SSSR i laboratoriya perenapryazheniy (zav. - prof.A.A.Akopyan) Vsesoyuznogo elektrotekhnicheskogo instituta im. V.I.Lenina.
(ELECTRICITY, INJURIES FROM)

APPROVED FOR RELEASE: 06/05/2000 CIA-RDP86-00513R000100710012-9"

"APPROVED FOR RELEASE: 06/05/2000 CIA-RDP86-00513R000100710012-9

AKOPYAN, A.A., KOSTENKO, M.P., LEVINSHTEYN, M.L., LYSKOV, YU.I.
ROKOTYAN, S.S., FOTIN, V.P., SHUR, S.S.

"E.H.V. line internal overvoltages and measures for their limiting."

Report to be submitted for the 19th Biennial Session, Intl. Conference on large electric systems(cigre), Paris, France, 16-26 May '62.

AKOPYAN, All-Union Elect. Engineering Inst. im V.I. Lenin, Moscow
KOSTENKO, AS, USSR, Inst. Electromechanics
LEVINSHTEYN, Leningrad Polytechinal Inst. im M.I. Kalinin
LYSKOV, All-Union Scientific Research Planning Inst. Thermoelectric Indust.
ROKOTYAN, Dept. Long Distance Power Transmission, All-Union Inst. Planning Steam- Electric Stations, Substations and Furnaces
FOTIN, All-Union Elect. Engineering Inst. im V.I. Lenin, Moscow
SHUR, Scientific Reasearch Inst. of Direct Current, Leningrad

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S/196/62/000/013/014/018
E194/E155

AUTHORS: Akopyan, A.A., Komarov, A.N., Kolechitskiy, Ye.S., Rodionov, Ya.V., and Fotin, V.P.

TITLE: Testing of 500 kV air circuit breakers on the transmission line between the Volzhskaya GES imeni XXII s"yezda KPSS-Moskva (Volga GES imeni 22nd Congress CPSU-Moscow)

PERIODICAL: Referativnyy zhurnal, Elektrotekhnika i energetika, no.13, 1962, 19, abstract 13 E 142. (Elektr. stantsii, no.1, 1962, 37-45)

TEXT: Tests were made on 500 kV air circuit-breakers type ВВНР-20001-500/2000 (VVNR-20001-500/2000) with a rated current of 2000 A and a breaking capacity of 20 000 mVA, with ten extinction chambers and with disconnectors having four breaks per phase. The circuit breaker is developed for a recovery voltage of $3.5\ U_{phase}$ = 1160 kV effective with a maximum formation time of 10 milliseconds. According to test laboratory data the disconnector was of reduced electric strength, $2.7\ U_{phase}$ = 820 kV

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effective instead of 3.5 U_{phase} = 1160 kV effective. The principal object of the test was to determine the possibility of doing without shunting resistors of 3000-2000 ohms on the main extinction chambers. These resistors greatly increase the cost of the circuit breakers (1.5 tons of nichrome for a three-phase set) and according to data from preliminary tests on models, they are effective in reducing the overvoltage only when disconnecting unloaded sections of line accompanied by recurrent restriking of the arc in the circuit breaker. Tests were carried out with the circuit shown in the sketch using a reduced working voltage of 430 kV on the receiving end of the transmission line U8. The main tests were carried out on circuit breaker BB_3 (sub-station no.2). Protective spark gaps were used to limit the value of the overvoltage. To assess the part played by the electromagnetic instrument voltage-transformers when disconnecting an unloaded line between substations nos. 2 and 4, all three voltage transformers were connected in the red phase, only two in the green phase and none in the yellow phase. Overvoltages and

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currents were recorded at three positions: at substations 4 and 2 and at the hydro-power station. Seventy-eight effects were recorded simultaneously with multi-beam cathode-ray oscillographs and forty by means of electromagnetic oscillographs. The programme of investigations included: a) overvoltage measurements on interruption of electrical transmission under conditions of synchronous operation of the Moscow system and of the hydro-power station (the disconnection was effected by circuit breakers BB_1, BB_3 and BB_4); b) similarly but with synchronous operation of the Moscow system and the power station (interruption was effected by circuit breaker BB_3); c) overvoltage measurements on disconnecting an unloaded section of the line 423 km long between substations nos. 4 and 2 with circuit breaker BB_4; d) overvoltage measurements on disconnecting an unloaded section of line 559 km long between the hydroelectric power station and substation no.2 by circuit breaker BB_1; e) overvoltage measurements on disconnecting an unloaded section of the line 423 km long between substations nos. 4 and 2 by circuit breaker BB_3. This section was disconnected as part of an unloaded line 982 km long (breaker BB_4 was first opened). In this case the circuit-breaker

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operating conditions were more severe than in tests c and d. Detailed test results are tabulated. During the course of the programme there were cases of disconnecting short-circuits on the line, which occurred during several protective spark gap breakdowns, and also during inter-phase flashover of line insulators during one of the tests. These cases afforded the possibility of checking the reliability of the circuit breakers in disconnecting short-circuits and permitted the following new observations. The overvoltage wave which causes the short-circuit is reflected from the point of the short-circuit with inverted sign and is then doubled on the substation (or power station) busbars if these latter operate under 'dead end' conditions. Dangerous overvoltages then occur on the substation even before disconnection of the short-circuit commences. This circumstance caused additional operations of the protective spark gaps at the hydroelectric station when the protective spark gap operated in no.2 substation (tests on disconnecting unloaded section of 423 km by circuit breaker BB_3) and during interphase flashover of line insulators occurring at the instant of interruption of a line

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length of 981 km by circuit breaker BB4. The following conclusions are drawn from the tests. 1) Tests on circuit breaker VVNR-20001-500/2000 were carried out under difficult conditions in respect of recovery voltage (up to 3.85 U_{phase} with t = 5 - 10 milliseconds). They showed that the circuit-breaker extinction chambers operate with complete reliability under all the required switching conditions (interruption of synchronous and asynchronous transmission, disconnection of unloaded lines, disconnection of short-circuits, etc) without special resistors shunting the extinction chambers. 2) An electric strength of 2.7 U_{phase} for the circuit breaker disconnector is insufficient for reliable operation in a 500 kV electrical transmission system and it should be raised to 3.5 U_{phase}.

[Abstractor's note: Complete translation.]

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"APPROVED FOR RELEASE: 06/05/2000 CIA-RDP86-00513R000100710012-9

AKOPYAN, A.A., kand.tekhn.nauk; PANOV, A.V., kand.tekhn.nauk; SHMATOVICH, V.V., kand.tekhn.nauk; YAROSHENKO, A.I., inzh.

Overvoltage levels and insulation requirements in 700 kv. a.c. power transmission lines. Vest.elektroprom. 33 no.2:4-11 F '62. (MIRA 15:2)

(Electric power distribution--Alternating current)

APPROVED FOR RELEASE: 06/05/2000 CIA-RDP86-00513R000100710012-9"

"APPROVED FOR RELEASE: 06/05/2000 CIA-RDP86-00513R000100710012-9

AKOPYAN, A.A., kand.tekhn.nauk; FETIN, V.P., kand.tekhn.nauk; YAROSHENKO, A.I., inzh.

Combination dischargers for 500 kv. networks and their test results. Elek.sta. 33 no.2:54-59 F '62. (MIRA 15:3)
(Electric power distribution)(Electric protection)

APPROVED FOR RELEASE: 06/05/2000 CIA-RDP86-00513R000100710012-9"

"APPROVED FOR RELEASE: 06/05/2000 CIA-RDP86-00513R000100710012-9

AKOPYAN, A. A.; ALEKSANDROV, YEMELYANOV, N. P.; LEVITOV; MIROLYUBOV, NAYASHKOV, I. S.; PANOV, A. V.; POPKOV, V. I.; ROKOTYAN, S. S.; SOKOLOV, N. N.; TIKHODEYEV, N. N.

"The 750 kV Experimental Commercial Transmission Line Konakovo-Moscow."

report submitted for 20th Biennial Sess, Intl Conf on Large Electric Systems, Paris, 1-10 Jun 64.

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"APPROVED FOR RELEASE: 06/05/2000 CIA-RDP86-00513R000100710012-9

AKOPYAN, A.B., inzh.

Design of a rail distribution system for a single load fed by two substations. Vest.TSNII MPS 22 no.1:33-37 '63. (MIRA 16:4)
(Electric railroads—Current supply)

APPROVED FOR RELEASE: 06/05/2000 CIA-RDP86-00513R000100710012-9"

"APPROVED FOR RELEASE: 06/05/2000 CIA-RDP86-00513R000100710012-9

FARAMAZYAN, A.S.; AKOPYAN, A.G.

Rhenium and some molybdenum ore manifestations in the Ayotsdzor ore region. Izv.AN Arm. SSR. Geol.i geog.nauki 16 no.3:61-66 '63.
(MIRA 17:2)

1. Institut geologicheskikh nauk AN Armyanskoy SSR.

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"APPROVED FOR RELEASE: 06/05/2000 CIA-RDP86-00513R000100710012-9

AKOPYAN, A.I.

Control of hymenolepiasis in children's institutions in Tashkent.
Med. zhur. Uzb. no.8:22-24 Ag '60. (MIRA 13:9)

1. Iz parazitologicheskogo otdela Tashkentskoy gorodskoy sanitarno-epidemiologicheskoy stantsii (zav. - N.Yu.Shamirzayev).
(TASHKENT--TAPEWORMS) (CHILDREN--DISEASES)

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"APPROVED FOR RELEASE: 06/05/2000 CIA-RDP86-00513R000100710012-9

IRANI, M.A.; ISAZADE, G.M., prof.; AKOPYAN, A.Kh.; ABDULLAYEVA, L.D.

Effect of meteorological factors in Baku on the coagulation and anticoagulation components in the blood of patients with cardiovascular diseases. Azerb. med. zhur. 40 no.8:16-26 Ag '63.
(MIRA 17:12)

APPROVED FOR RELEASE: 06/05/2000 CIA-RDP86-00513R000100710012-9"

"APPROVED FOR RELEASE: 06/05/2000 CIA-RDP86-00513R000100710012-9

AKOPYAN, A.Kh.; YEZEPOVA, G.T.

So-called postinfarction syndrome. Azerb. med. zhur. 41 no.5:73-77 My '64. (MIRA 18:10)

APPROVED FOR RELEASE: 06/05/2000 CIA-RDP86-00513R000100710012-9"

"APPROVED FOR RELEASE: 06/05/2000 CIA-RDP86-00513R000100710012-9

AKOPYAN, A.Kh.

Study of the connection between hypercholesterinemia and the clinical manifestations of atherosclerosis. Azerb. med. zhur. 41 no. 11:38-44 N '64. (MIRA 18:12)

1. Submitted June 18, 1963.

APPROVED FOR RELEASE: 06/05/2000 CIA-RDP86-00513R000100710012-9"

"APPROVED FOR RELEASE: 06/05/2000 CIA-RDP86-00513R000100710012-9

AKOPYAN, A. M.

30521

Sluchay chryezmyernogo razvitiya obonyatyel'nogo mozga I odnovryemyenn. nalichiya atipichnykh borozd I izvilin nozga. Trudy yohryevansk. Myed in-ta, vyp. 6, 1949, S. 107-15.

SO: Letopis' No. 34

APPROVED FOR RELEASE: 06/05/2000 CIA-RDP86-00513R000100710012-9"

"APPROVED FOR RELEASE: 06/05/2000 CIA-RDP86-00513R000100710012-9

Name: AKOPYAN, Arshavir Mnatsakanovich

Dissertation: History of the Soviet Army in the period of the restoration of the national economy (1921-1925)

Degree: Doc Historical Sci

Affiliation: [not indicated]

Defense Date, Place: 24 Feb 54, Council of the Inst of History, Acad Sci ArSSR

Certification Date: 11 May 57

Source: BMVO 15/57

APPROVED FOR RELEASE: 06/05/2000 CIA-RDP86-00513R000100710012-9"

"APPROVED FOR RELEASE: 06/05/2000 CIA-RDP86-00513R000100710012-9

AKOPYAN, Akop Minasovich, dots.; BEKZADYAN, Aramais Akopovich, kand. med. nauk

[International anatomical nomenclature] Nomina anatomica internationalia. [Erevan, Gos.izd-vo Armianskoi SSR] 1962. 202 p. [In Latin and Armenian] (MIRA 17:9)

APPROVED FOR RELEASE: 06/05/2000 CIA-RDP86-00513R000100710012-9"

"APPROVED FOR RELEASE: 06/05/2000 CIA-RDP86-00513R000100710012-9

AKOPYAN, A.N.

Preparation of natural visual aids on the theme "Phasic development of plants." Est. v shkole no.3:49 My-Je '54. (MLRA 7:7)

1. Kafedra metodiki estestvoznaniya Moskovskogo gosudarstvennogo pedagogicheskogo instituta imeni V.I.Lenina.
(Botany--Study and teaching)

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"APPROVED FOR RELEASE: 06/05/2000 CIA-RDP86-00513R000100710012-9

AKOPYAN, A.N.

Lesson on the subject "Growth and development of plants." Est. v shkole no.6:42-49 N-D '54. (MLRA 7:12)

1. Moskovskiy gosudarstvennyy pedagogicheskiy institut im. V.I.Lenina.
(Growth (Plants))

APPROVED FOR RELEASE: 06/05/2000 CIA-RDP86-00513R000100710012-9"

"APPROVED FOR RELEASE: 06/05/2000 CIA-RDP86-00513R000100710012-9

AKOPYAN, A.N., kandidat pedagogicheskikh nauk.

Lesson on the subject "Application of the theory of phasic development of plants to the practice of socialist agriculture." Est. v shkole no.1:69-75 Ja-F '55. (MLRA 8:3)

1. Moskovskiy gosudarstvennyy pedagogicheskiy institut im. V.I.Lenina.
(Botany--Physiology) (Botany--Study and teaching)

APPROVED FOR RELEASE: 06/05/2000 CIA-RDP86-00513R000100710012-9"

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AKOPYAN, A.N., kand.pedagogicheskikh nauk

Experiments in the study of biennial plants. Biol. v shkole no.3:23-28 My-Je '60. (MIRA 13:7)

1. Kurskiy pedagogicheskiy institut.
(Beets)

APPROVED FOR RELEASE: 06/05/2000 CIA-RDP86-00513R000100710012-9"

"APPROVED FOR RELEASE: 06/05/2000 CIA-RDP86-00513R000100710012-9

AKOPYAN, A.N., kand.pedagogicheskikh nauk

Educational significance of the experimental work of students.
Biol. v shkole no.3:42-45 My-Je '61. (MIRA 14:7)

1. Kurskiy pedagogicheskiy institut.
(Biology--Study and teaching)

APPROVED FOR RELEASE: 06/05/2000 CIA-RDP86-00513R000100710012-9"

"APPROVED FOR RELEASE: 06/05/2000 CIA-RDP86-00513R000100710012-9

[redacted], L.N., kand.pedagogicheskikh nauk

"Studying the fundamentals of Darwinism in secondary schools" by M.I. Mel'nikov. Reviewed by A.N. Akopian. Biol. v shkole no.6:81-84 N-D '61. (MIRA 14:11)

1. Kurskiy pedagogicheskiy institut.
(Origin of species)
(Mol'nikov, M.I.)

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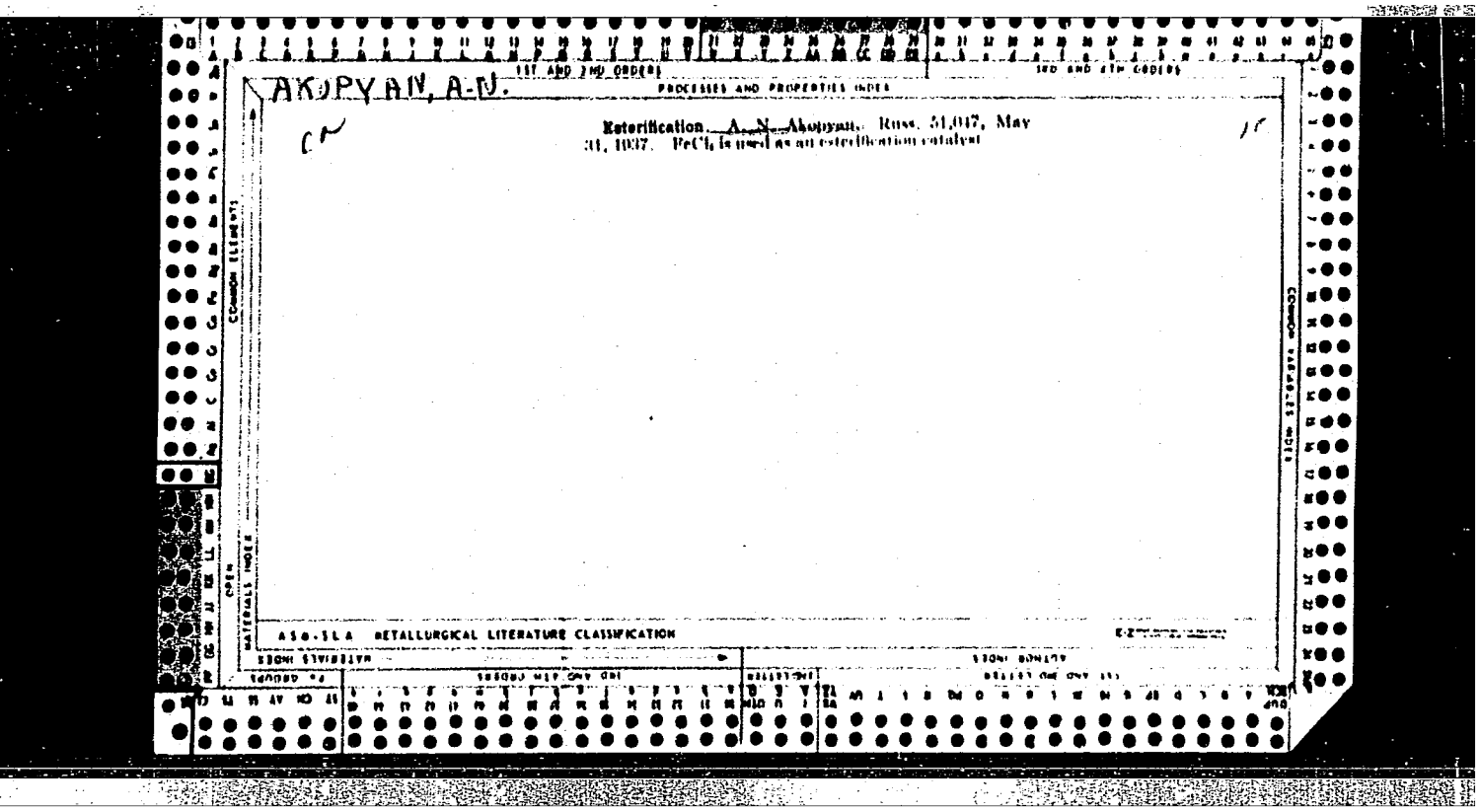

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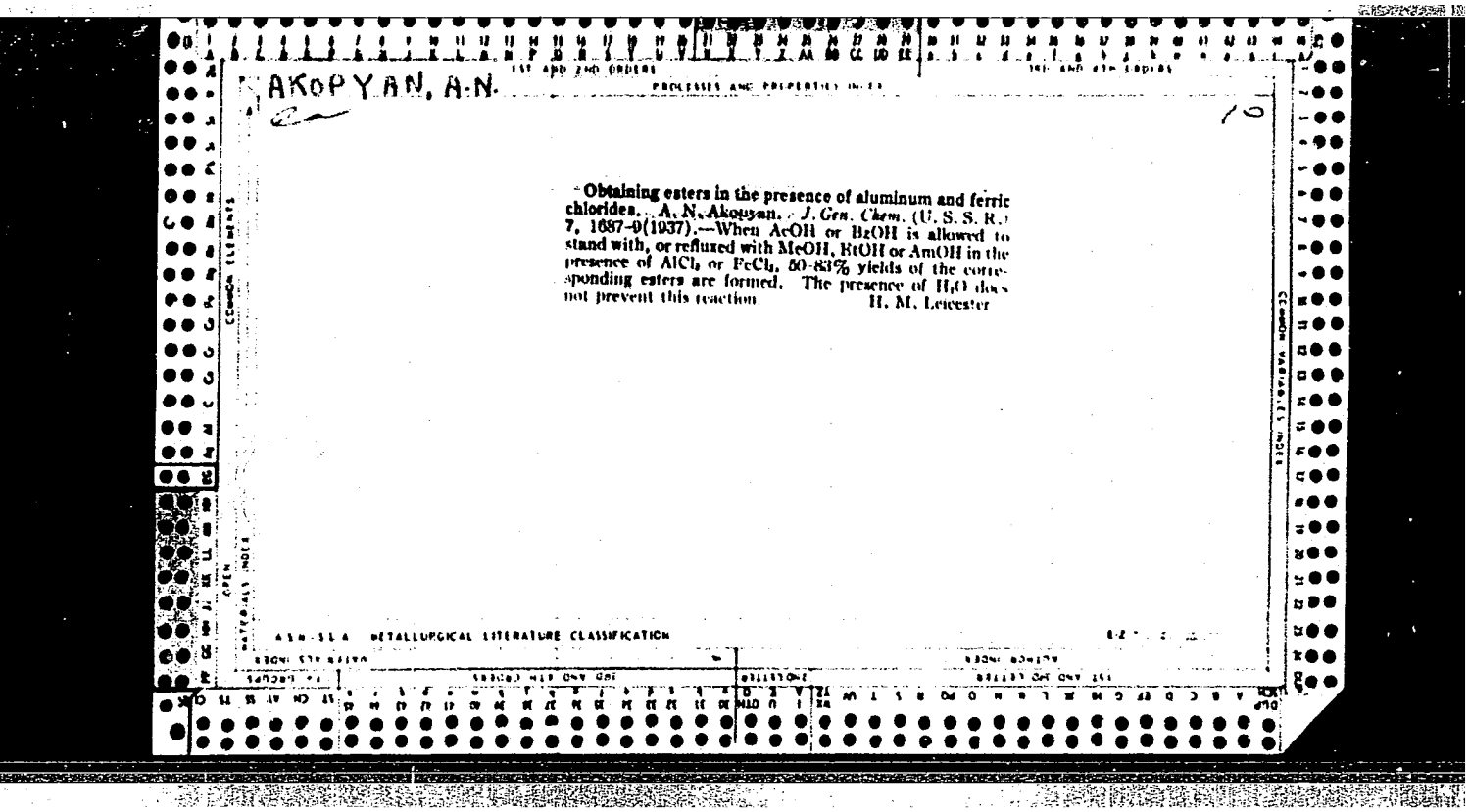

AKOPYAN, A.N.

Obtaining esters in the presence of aluminum and ferric chlorides. A. N. Akopyan. *J. Gen. Chem.* (U. S. S. R.) 7, 1687-9(1937).—When AcOH or BzOH is allowed to stand with, or refluxed with MeOH, EtOH or AmOH in the presence of $AlCl_3$ or $FeCl_3$, 50-83% yields of the corresponding esters are formed. The presence of H_2O does not prevent this reaction. H. M. Leicester

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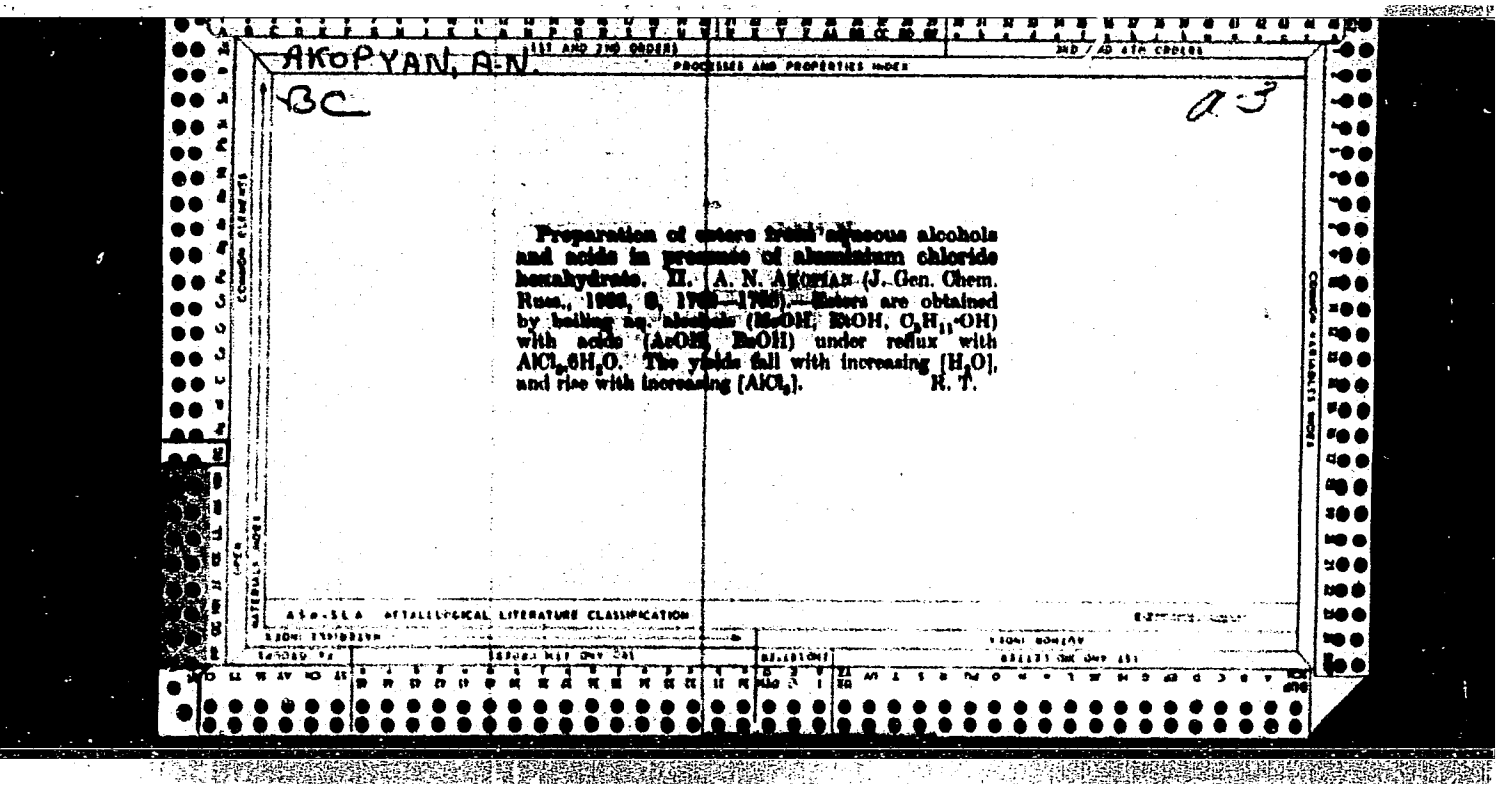
AKOPYAN, A.N.

BC

A-3

Preparation of esters from aliphatic alcohols and acids in presence of aluminium chloride hexahydrate. II. A. N. Akopyan (J. Gen. Chem. Russ., 1958, 8, 1783–1786). Esters are obtained by boiling aq. alcohols (MeOH, EtOH, C_5H_{11}·OH) with acids (AcOH, EtOH) under reflux with $AlCl_3.6H_2O$. The yields fall with increasing $[H_2O]$, and rise with increasing $[AlCl_3]$. R. T.

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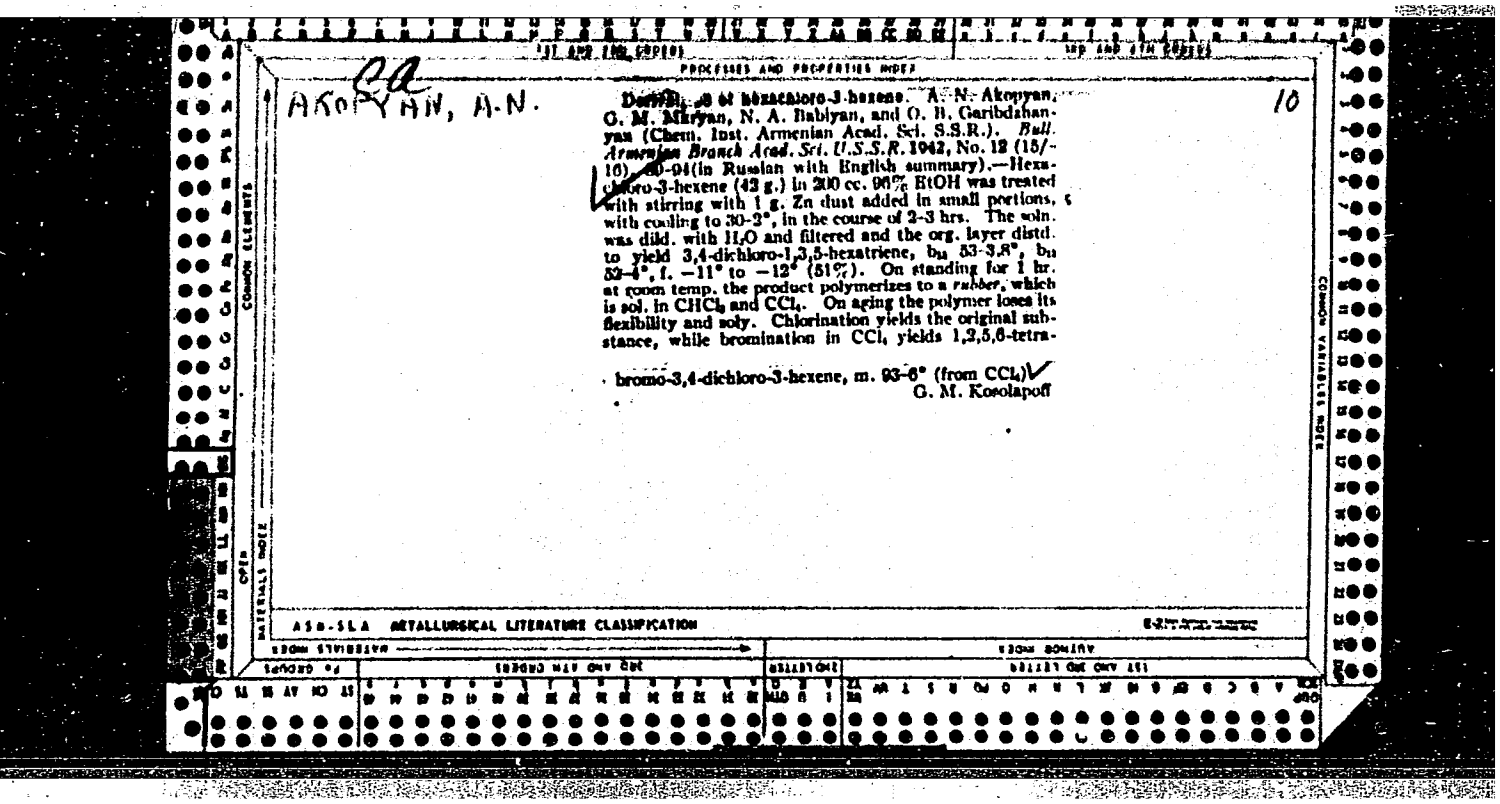

Ca

AKOPYAN, A.N.

10

Derivs. of hexachloro-3-hexene. A. N. Akopyan, G. M. Mkryan, N. A. Babiyan, and O. B. Garibdzhanyan (Chem. Inst. Armenian Acad. Sci. S.S.R.). *Bull. Armenian Branch Acad. Sci. U.S.S.R.* 1942, No. 12 (15/-10), 89-94 (in Russian with English summary).—Hexachloro-3-hexene (42 g.) in 200 cc. 90% EtOH was treated with stirring with 1 g. Zn dust added in small portions, with cooling to 30-2°, in the course of 2-3 hrs. The soln. was dild. with H_2O and filtered and the org. layer distd. to yield 3,4-dichloro-1,3,5-hexatriene, b_{11} 53-3.8°, b_{11} 52-4°, f. −11° to −12° (51%). On standing for 1 hr. at room temp. the product polymerizes to a rubber, which is sol. in $CHCl_3$ and CCl_4. On aging the polymer loses its flexibility and soly. Chlorination yields the original substance, while bromination in CCl_4 yields 1,2,5,6-tetrabromo-3,4-dichloro-3-hexene, m. 93-6° (from CCl_4).

G. M. Kosolapoff

APPROVED FOR RELEASE: 06/05/2000 CIA-RDP86-00513R000100710012-9"

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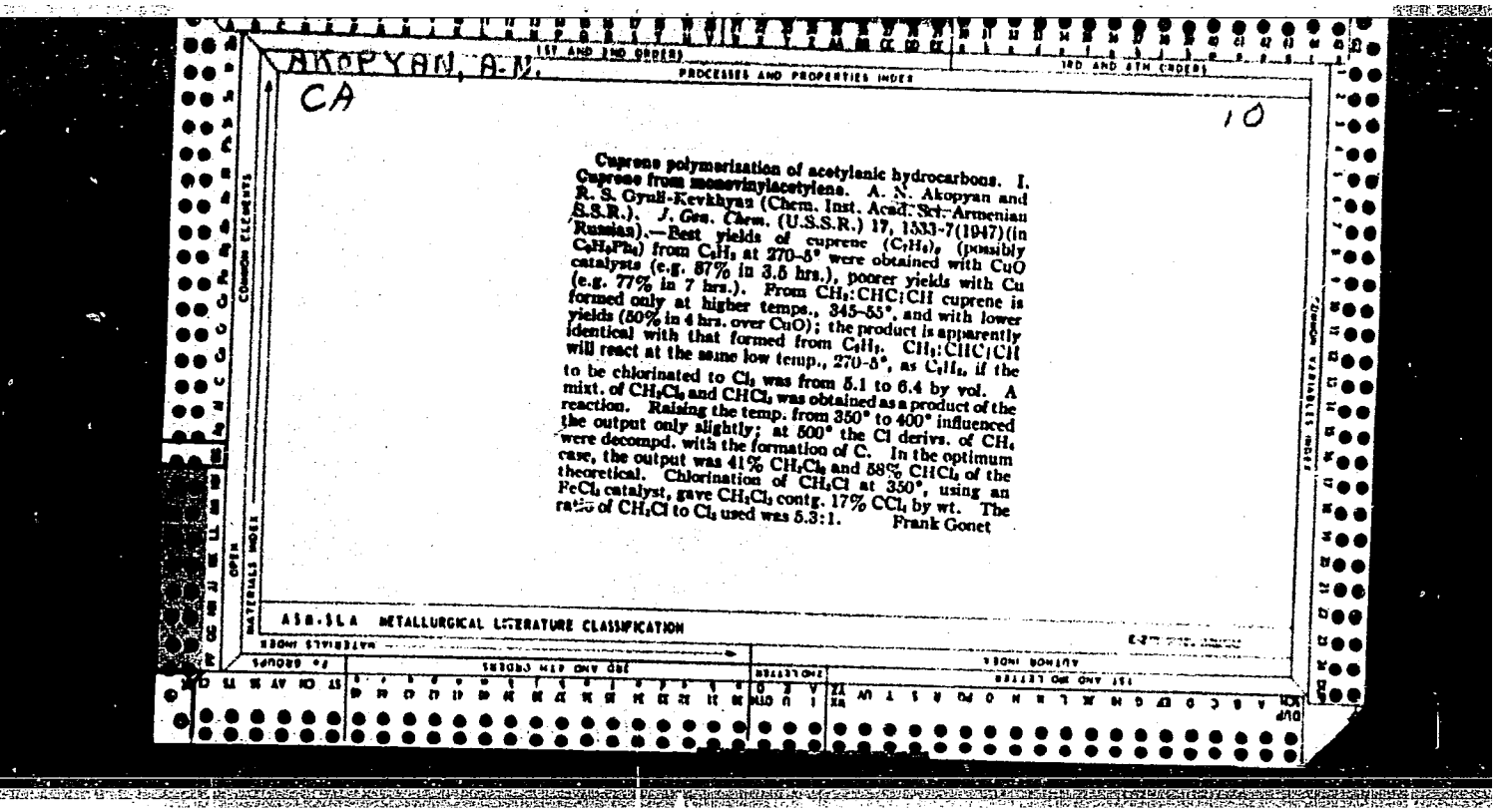

AKOPYAN, A. N.

CA

10

Cuprene polymerization of acetylenic hydrocarbons. I. Cuprene from monovinylacetylene. A. N. Akopyan and R. S. Gyuli-Kevkhyan (Chem. Inst. Acad. Sci. Armenian S.S.R.). *J. Gen. Chem.* (U.S.S.R.) 17, 1333-7(1947)(in Russian).—Best yields of cuprene $(C_4H_4)_x$ (possibly $C_8H_8Pd_2$) from C_4H_5 at 270–5° were obtained with CuO catalysts (e.g. 87% in 3.5 hrs.), poorer yields with Cu (e.g. 77% in 7 hrs.). From CH_2:CHC:CH cuprene is formed only at higher temps., 345–55°, and with lower yields (50% in 4 hrs. over CuO); the product is apparently identical with that formed from C_4H_5. CH_2:CHC:CH will react at the same low temp., 270–5°, as C_4H_5, if the to be chlorinated to Cl_2 was from 5.1 to 6.4 by vol. A mixt. of CH_2Cl_2 and $CHCl_3$ was obtained as a product of the reaction. Raising the temp. from 350° to 400° influenced the output only slightly; at 500° the Cl derivs. of CH_4 were decompd. with the formation of C. In the optimum case, the output was 41% CH_2Cl_2 and 58% $CHCl_3$ of the theoretical. Chlorination of CH_3Cl at 350°, using an $FeCl_3$ catalyst, gave CH_2Cl_2 contg. 17% CCl_4 by wt. The ratio of CH_3Cl to Cl_2 used was 5.3:1.

Frank Gonet

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

APPROVED FOR RELEASE: 06/05/2000 CIA-RDP86-00513R000100710012-9"

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AKOPYAN, A.N.
CA

13

Preparation of hexachloroethane and carbon tetrachloride from 1,3-dichloro-2-butene. A. N. Akopyan, G. T. Esayan, and V. Martirosyan. *Zhur. Prikład. Khim.* (*J. Applied Chem.*) **21**, 146-50(1948).—C_2Cl_6 and CCl_4 are obtained in 1 step by destructive catalytic chlorination of $ClCH_2CH:CClCH_3$. The best conditions are activated C as catalyst at about 450°; the total yield is as high as 80%. No side products are formed and the outgoing gas is HCl with about 20% Cl, the latter being usable for preliminary chlorination of the dichlorobutene to 1,2,3,4-tetrachlorobutane which in itself is a suitable starting material. During the process quite pure HCl is obtained. For the highest yield (80%) the feed rate of Cl was 10 l./hr., of dichlorobutene 3.3 g./hr., and the yields of C_2Cl_6 and CCl_4 70 and 11 g., resp. Below 450° or with rapid charging of the starting materials 2 unidentified substances were also formed, a liquid b$_{10}$ 202-5°, and crystals m. 225°. Kitty Lus

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"APPROVED FOR RELEASE: 06/05/2000 CIA-RDP86-00513R000100710012-9

AUTHORS: Akopyan, A. N., Saakyan, A. M., Avetyan, M. G. 79-28-5-19/69

TITLE: Synthesis and Investigation of the Chlorination Products of Acetylenyl Divinyl (Hexadiene - 1,3 - yne 5) (Sintez i issledovaniye produktov khlorirovaniya atsetilenildivinila) (geksadiyen-1,3-in-5)

PERIODICAL: Zhurnal Obshchey Khimii, 1958, Vol. 28. Nr 5, pp. 1221 - 1224 (USSR)

ABSTRACT: There are no data in publications on the chlorination of acetenyl divinyl, whereas that of divinyl acetylene was investigated in detail (Reference 5). In the chlorination process of divinyl acetylene its di-, tetra-and hexachlorine derivates form and the formation of each subsequent compound from the preceeding one takes place by addition of chlorine in the position 1,4, i.e. at the endings of the conjugated enine or diene. Possibly the reason for this regularity is the symmetrical structure of divinyl acetylene. Acetylenyl divinyl differs from divinyl acetylenyl by the asymmetrical structure of the molecules, so that a different course of chlorination was to be expected. In the laboratory of the authors a higher chlori-

Card 1/3

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"APPROVED FOR RELEASE: 06/05/2000 CIA-RDP86-00513R000100710012-9

Synthesis and Investigation of the Chlorination Products of Acetylenyl Divinyl (Hexadiene -1,3 - in 5)

nation velocity of divinylacetylene compared to that of divinyl acetylene was found. The investigation of the chlorination reaction of the latter could prove, besides further syntheses, useful also in technical fields. Different from divinyl acetylene the chlorination process of acetylenyl divinyl proceeds till to saturation, i. e. to the octachlorohexane. According to its structure the octachloride to be expected would have to have the formula 1,1,2,2,3,4,5,6 octachlorohexane= $CHCl_2 - CCl_2 - CHCl - CHCl - CHCl - CH_2Cl$. This way by the chlorination of acetylenyl divinyl the following compounds not described in publications were synthetized: 1,6-dichlorohexatriene - 1,2,4; 1,2,3,6 - tetrachlorohexadiene -1,4; 1,2,3,4,5,6--hexachlorohexene - 1 and 1,1,2,2,3,4,5,6 - octachlorohexane. Di - and tetrachlorine derivatives are extremely unstable liquids with a strange unpleasent smell; they soon split off hydrogen chloride and resinify. Octachlorohexane forms scaly crystals with camphor smell.

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79-28-5-19/69

Synthesis and Investigation of the Chlorination Products of Acetylenyl Divinyl (Hexadiene -1,3-yne 5)

There are 1 table and 5 references, 3 of which are Soviet.

ASSOCIATION: Khimicheskiy institut AN Armyanskoy SSR (Chemical Institute of the AS Armenian SSR)

SUBMITTED: April 22, 1957

Card 3/3

APPROVED FOR RELEASE: 06/05/2000 CIA-RDP86-00513R000100710012-9"

"APPROVED FOR RELEASE: 06/05/2000 CIA-RDP86-00513R000100710012-9

83988

S/171-x/60/013/002-3/004/005
E142/E435

15.8102 also 2209

AUTHORS: Akopyan, A.N. and Aslamazyan, V.S.

TITLE: Investigations on the Chemistry of Divinyl Acetylene and its Halo Derivatives. Communication II. Modification of 1,2,3,4,5,6-Hexachloro-3-Hexene and Syntheses Based on the Same

PERIODICAL: Izvestiya Akademii nauk Armyanskoy SSR, Khimicheskiy nauki, 1960, Vol.13, No.2-3, pp.155-164

TEXT: This compound was first prepared, in its crystalline form, by Coffman and Carothers (Ref.1). During the chlorination of divinyl acetylene, the authors obtained the above-mentioned compound which constituted about 90% of the end product (melting point 59°) and also a new substance (melting point 91°) and showed that one of the compounds represented the trans- and the second the cis-modification of the substance. Dehydrohalogenation of these hexachlorohexenes gave the corresponding cis- and trans-2,3,4,5-tetrachlorohexatrienes-1,3,5 which can be polymerized. It was also shown that cis- and trans-tetrachloro-1,3,5-hexatrienes were formed during the chlorination and bromination of the corresponding hexachloro- and dibromo-tetrachloro-2,4-hexadienes.

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"APPROVED FOR RELEASE: 06/05/2000 CIA-RDP86-00513R000100710012-9

83988

S/171-x/60/013/002-3/004/005
E142/E435

Investigations on the Chemistry of Divinyl Acetylene and its Halo Derivatives. Communication II. Modification of 1,2,3,4,5,6-Hexachloro-3-Hexene and Syntheses Based on the Same

Incomplete dehydrochlorination of the starting material gives 2,3,4,5,6-pentachloro-1,3-hexadiene and ozonolysis of the latter compound gave 2,3,4,5-tetrachloro-2-pentanoic acid which has hitherto not been described in literature. Trans-isomers usually have a much higher melting point and a lower boiling point than the cis-isomers. However, in the present investigation, the melting point of the cis-compound was considerably higher than that of the trans-compound. This is probably due to the presence of asymmetrical C-atoms with an equal degree of asymmetry which causes the formation of diastereo-isomers. The monomers polymerized either spontaneously or in the presence of peroxides although the cis-tetrachlorohexatriene shows a tendency to dimerization. Various polymerization stabilizers such as phenol-β-naphthylamine, hydroquinone, n-tert.-butyl-pyrocatechol can be used to inhibit the polymerization reaction. The polymer of the trans-modification, obtained in an aqueous suspension in the presence of benzoyl peroxide, is a thermoplastic mass with high

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"APPROVED FOR RELEASE: 06/05/2000 CIA-RDP86-00513R000100710012-9

83989

S/171-x/60/013/002-3/005/005
E142/E435

15.8102 also 2209

AUTHORS: Akopyan, A.N. and Gabrielyan, G.A.

TITLE: Investigations on the Chemistry of Divinyl Acetylene and its Halo Derivatives. Part III. The Syntheses Based on 1,2,3,4,5,6-Hexabromo-3-Hexene

PERIODICAL: Izvestiya Akademii nauk Armyanskoy SSR, Khimicheskiy nauki, 1960, Vol.13, No.2-3, pp.165-171

TEXT: Bromination of divinyl acetylene gave two modifications of hexabromide: the basic modification with melting point of 104 to 105°C representing 80% of the end product which is the trans-isomer of the compound; the second modification had a melting point of 81°. Benzene could be used as solvent instead of carbon tetrachloride. Dehydrobromination of the trans-isomer gave 2,3,4,5-tetrachloro-1,3,5-hexatriene and the corresponding crystalline bromine derivative which could be polymerized. The structure of the latter was confirmed by ozonolysis. It was proved that the gaseous and liquid monomers can be polymerized to liquid or solid substances. The 2,3,4,5-tetrabromo-1-hexatriene and -3,5-hexatriene monomers which are solid compounds can be polymerized by dissolving the same in substances which are solvents for the monomer, but not for the

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E142/E435

Investigations on the Chemistry of Divinyl Acetylene and its Halo Derivatives. Part III. The Syntheses Based on 1,2,3,4,5,6-Hexabromo-3-Hexene

polymer, e.g. acetone, ethyl ether and alcohols. The tetrabromo-hexatrienes were chlorinated and brominated; the reaction mechanism is discussed. It was not possible to confirm the structure of Br-derivatives by ozonolysis or oxidation. Chlorination of the 2,3,4,5-tetrabromo-1,3,5-hexatriene gave tetrachloro-tetrabromohexene. The rate of polymerization of the Br derivative is much higher than that of the Cl derivative. The polymer is a powdery product, soluble in benzene dichlorcethane, chloroform and carbon tetrachloride and insoluble in acetone and methyl and ethyl alcohols. Polytetrabromohexatriene shows high solubility in organic solvents and it can therefore be supposed that the polymerization proceeds according to the 1-6 mechanism. The chemical composition of the polymer was defined by bromine analysis. Details of the synthesis of the various compounds and analytical data are given. There are 4 references: 1 Soviet, 2 English and 1 French.

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E142/E435

Investigations on the Chemistry of Divinyl Acetylene and its Halo Derivatives. Part III. The Syntheses Based on 1,2,3,4,5,6-Hexabromo-3-Hexene

ASSOCIATION: Institut organicheskoy khimii AN ArmSSR
(Institute of Organic Chemistry, AN ArmSSR)

SUBMITTED: May 10, 1960

Card 3/3

APPROVED FOR RELEASE: 06/05/2000 CIA-RDP86-00513R000100710012-9"

"APPROVED FOR RELEASE: 06/05/2000 CIA-RDP86-00513R000100710012-9

S/171/60/013/004/004/004
87237
E142/E265

15-8102

AUTHORS: Akopyan, A. N. and Saakyan, A. M.

TITLE: Investigations on Divinylacetylene and its Halo-Derivatives. Part 4: Investigations on the Condensation of 1,2,3,4,5,6-Hexachloro-3-hexene with Benzene

PERIODICAL: Izvestiya Akademii nauk Armyanskoy SSR, Khimicheskiye nauki, 1960, Vol. 13, No. 4, pp. 269-274

TEXT: Alkylated aromatic monomers or low-molecular polymers are formed during the condensation of alkyl haloids and aromatic compounds; reaction conditions such as the ratio of the starting compounds, temperature, etc. influence the character of the end-products. G. S. Kolesnikov and V. V. Korshak carried out systematic investigations on this reaction (Refs. 3-8, 14, 15, 17-19, 22) and N. N. Lebedev (Ref. 16) described the reaction kinetics, the effect of solvents, etc. The present investigations proved that 1,2,5,6-tetraphenyl-3,4-dichloro-3-hexene was formed as one of the basic condensation products, under suitable reaction conditions. The yields depended on the ratio of the

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"APPROVED FOR RELEASE: 06/05/2000 CIA-RDP86-00513R000100710012-9

AKOPYAN, A.N.; SAAKYAN, A.M.

Chemistry of divinylacetylene and its halo derivatives. Report No.5: Some reactions of 1,2,5,6-tetraphenyl-3,4,-dichloro-3-hexene. Izv. AN Arm. SSR. Khim. nauki 13 no.5:351-356 '60. (MIRA 14:2)

1. Institut organicheskoy khimii AN ArmSSR.
(Hexene)

APPROVED FOR RELEASE: 06/05/2000 CIA-RDP86-00513R000100710012-9"

"APPROVED FOR RELEASE: 06/05/2000 CIA-RDP86-00513R000100710012-9

30885
S/171/61/014/004/002/003
E141/E465

53600

AUTHORS: Akopyan, A.N., Aslamazyan, V.S.

TITLE: Investigations on the chemistry of 1,3-butadiene and its halo-derivatives. Report VII. The reaction and end-products of photo-chlorination of 1,2,3,4,5,6-hexachloro-3-hexene

PERIODICAL: Akademiya nauk Armyanskoy SSR. Izvestiya. Khimicheskiye nauki, v.14, no.4, 1961, 329-335

TEXT: 1,3-butadiene is produced in large quantities as by-product during the dimerization of acetylene in the production of chloroprene rubber. The authors carried out tests on the chlorination of hexachloro-3-hexene and found that earlier statements on its stability were not quite accurate as 1,1,2,2,3,4,5,5,6,6-decachloro-3-hexene was formed during the photochlorination of its cis- and trans-modification; during extensive photochlorination hexachloroethane is formed. The authors suggest the following mechanism for the chlorination reaction: at the beginning of the experiment, the double bond in both modifications of hexachloro-3-hexene is chlorinated and 1,2,3,3,4,4,5,6-octachlorohexane (I) is formed; the latter is

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Investigations on the chemistry ...

converted into hexachlorohexadiene (II); this compound is chlorinated and the formed, unstable 1,2,2,3,4,5,5,6-octachloro-3-hexene (III) loses two mols of water and forms 1,2,3,4,5,6-hexachloro-1,3,5-hexatriene (IV). This intermediate is chlorinated according to the 1-6 mechanism when 1,1,2,3,4,5,6,6-octachloro-2,4-hexadiene (V) is formed and the latter is converted into the stable 1,1,2,2,3,4,5,5,6,6-decachloro-3-hexene (VI). The structure of compound (VI) was proved by dehydrochlorination of the same with an alcoholic solution with NaOH. Compound (VI) was also subjected to dechlorination with zinc filings in ethyl alcohol when compound (IV) was obtained; the latter added two molecules of chlorine during the photo-chlorination reaction and was again converted to the starting material. The authors also carried out reactions on the bromination of compound (IV) and prepared 1,6-dibromo 1,2,3,4,5,6-hexachloro-2,4-hexadiene. There are 6 references: 3 Soviet-bloc and 3 non-Soviet-bloc. The reference to an English language publication reads as follows: Ref.1: D.D.Coffman, W.H.Carothers, J. Am. Chem. Soc., v.55, 2040 (1933).

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APPROVED FOR RELEASE: 06/05/2000 CIA-RDP86-00513R000100710012-9"

"APPROVED FOR RELEASE: 06/05/2000 CIA-RDP86-00513R000100710012-9

AKOPYAN, A.N.; ASLAMAZYAN, V.S.

Chemistry of divinylacetylene and its halo derivatives. Part 6: Cis-trans conversions of compounds with a deeply screened double bond. Zhur. ob. khim. 31 no.4:1190-1193 Ap '61. (MIRA 14:4)

1. Institut organicheskoy khimii Akademii nauk Armyanskoy SSR.
(Hexatriene) (Isomerization)

APPROVED FOR RELEASE: 06/05/2000 CIA-RDP86-00513R000100710012-9"

"APPROVED FOR RELEASE: 06/05/2000 CIA-RDP86-00513R000100710012-9

AKOPYAN, A.N.

Experimental work as a form of connection between biology teaching and productive work of students. Uch.zap.Kursk.gos.ped.inst. 12: 182-190 '61. (MIRA 17:4)

1. Kafedra botaniki Kurskogo gosudarstvennogo pedagogicheskogo instituta.

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"APPROVED FOR RELEASE: 06/05/2000 CIA-RDP86-00513R000100710012-9

AKOPYAN, A.N.; SAAKYAN, A.M.; SAFARYAN, A.A.

Chemistry of divinylacetylene and its halo derivatives. Part 10: Chlorination of trichloroethylene, perchloroethylene, and benzene initiated by vinylacetylene hydrocarbons. Zhur.ob.khim. 32 no.4: 1098-1104 Ap '62. (MIRA 15:4)

1. Institut organicheskoy khimii AN Armyanskoy SSR.
(Chlorination) (Butenyne)

APPROVED FOR RELEASE: 06/05/2000 CIA-RDP86-00513R000100710012-9"

"APPROVED FOR RELEASE: 06/05/2000 CIA-RDP86-00513R000100710012-9

S/171/62/015/006/003/006
E071/E492

AUTHORS: Krbekyan, G.Ye., Sinanyan, E.G., Akopyan, A.N.

TITLE: Investigations in the field of divinylacetylene and its halide derivatives. Communication 12. A study of copolymerisation of trans-2,3,4,5-tetrachlorohexatriene-1,3,5 with isoprene, chloroprene and methylvinylketone

PERIODICAL: Akademiya nauk Armyanskoy SSR. Izvestiya. Khimicheskiye nauki, v.15, no.6, 1962, 527-533

TEXT: Reactions of copolymerisation of 2,3,4,5-tetrachlorohexatriene-1,3,5 (TCHT) with isoprene (I), chloroprene (CP) and methylvinylketone (MVK) were investigated. The copolymerisation was carried out in the presence of 0.1% of benzoyl peroxide at 70°C by a previously described method (A.N.Akopyan, V.S.Aslamazyan, Izv. AN ArmSSR, KhN, v.13, 1960, 155). The copolymers obtained were separated by double precipitation with methanol from solutions in benzene, except for copolymers obtained at molar ratios of starting mixtures of monomers TCHT-MVK 0:10, 1:9 and 2:8 which were precipitated with petroleum ether, as well as copolymer of TCHT with CP (2:8) and

Card 1/2

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AKOPYAN, A.N.; ASLAMAZYAN, V.S.

Chemistry of divinylacetylene and its halo derivatives. Part 11: Dimer of cis-2,3,4,5-tetrachloro-1,3,5,-hexatriene and its adduct with maleic anhydride. Zhur.ob.khim. 32 no.8:2443-2448 Ag '62. (MIRA 15:9)

1. Institut organicheskoy khimii AN Armyanskoy SSR.
(Hexatriene) (Maleic anhydride)

APPROVED FOR RELEASE: 06/05/2000 CIA-RDP86-00513R000100710012-9"

"APPROVED FOR RELEASE: 06/05/2000 CIA-RDP86-00513R000100710012-9

AKBEKYAN, G.Ye.; SINANYAN, E.G.; AKOPYAN, A.N.

Divinylacetylene and its halo derivatives. Report No.12: Copolymerization trans-2,3,4,5-tetrachloro-1,3,5-hexatriene with isoprene, chloroprene, and methyl vinyl ketone. Izv.AN Arm.SSR.Khim.nauki 15 no.6:527-533 '62. (MIRA 16:2)

1. Institut organicheskoy khimii AN Armyanskoy SSR.
(Hexatriene) (Polymerization) (Unsaturated compounds)

APPROVED FOR RELEASE: 06/05/2000 CIA-RDP86-00513R000100710012-9"

"APPROVED FOR RELEASE: 06/05/2000 CIA-RDP86-00513R000100710012-9

45396

S/190/63/005/002/007/024
B101/B102

15,8070

AUTHORS: Akopyan, A. N., Krbekyan, G. Ye.

TITLE: Studies in the chemistry of divinyl acetylene and its halogen derivatives. VIII. Copolymerization of trans-2, 3,4,5-tetrachloro-hexa-1,3,5-triene with styrene, acrylonitrile and vinyl acetate

PERIODICAL: Vysokomolekulyarnyye soyedineniya, v. 5, no. 2, 1963, 201-205

TEXT: It has been shown in a previous paper (Izv. AN ArmSSR, 13, 155, 1960) that 2,3,4,5-tetrachloro-hexa-1,3,5-triene (TCHT) polymerizes easily. Neither crosslinking nor formation of a steric structure takes place, since the double bonds are shielded by the Cl atoms. This study concerns the copolymerization of TCHT with styrene (St), acrylonitrile (AN) or vinyl acetate (VA) in the presence of 0.1% benzoyl peroxide at 70°C. The relative activity constants r_1 and r_2 were determined according to F. M. Lewis, F. R. Mayo (J. Amer. Chem. Soc., 66, 1594, 1944) as well as the

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Studies in the chemistry of ...

composition and properties of the copolymers. The relative activity constants were:

M_1	M_2	r_1	r_2	$r_1 \cdot r_2$
TCHT	St	0.84±0.13	0.21±0.08	0.176
TCHT	AN	4.05±0.45	0.20±0.05	0.810
TCHT	VA	32+2	0.013±0.013	0.416

The relative activity related to the TCHT radical was:

monomer	TCHT radical
TCHT	1
St	1.2
AN	0.25
VA	0.03

No azeotrope polymer formed in the systems TCHT - AN and TCHT - VA. With all component ratios, the copolymers were enriched with TCHT. In the TCHT - St system, too, enrichment with TCHT was observed over a wide range of component ratios, but with 8% TCHT an azeotrope polymer formed and with still higher TCHT contents enrichment with St took place. The polymerization rate increased with increasing molar part of St. In the TCHT - AN system and particularly in the TCHT - VA system, TCHT had an inhibitive effect on the polymerization rate. The copolymers were soluble in organic solvents with

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Studies in the chemistry of ... S/190/63/005/002/007/024
B101/B102

the exception of alcohol, acetone and petroleum ether, which confirms their linear structure. There are 2 figures and 4 tables.

ASSOCIATION: Institut organicheskoy khimii AN ArmSSR (Institute of Organic Chemistry AS ArSSR)

SUBMITTED: July 28, 1961

Card 3/3

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"APPROVED FOR RELEASE: 06/05/2000 CIA-RDP86-00513R000100710012-9

L 13549-63 EPR/EWP(j)/EPF(c)/EWT(m)/BDS ASD Ps-4/Pe-4/Pr-4 RM/WW
ACCESSION NR: AP3000694 B/0190/63/005/005/0681/0686

AUTHOR: Akopyan, A. N.; Krbekyan, G. Ye.; Sinanyan, E. G.

TITLE: The chemistry of divinylacetylene and its halides. 9. Copolymerization of trans-2, 3, 4, 5-tetrachlorohexa-1, 3, 5-triene with methyl acrylate and methyl methacrylate

SOURCE: Vysokomolekulyarnyye soyedineniya, v. 5, no. 5, 1963, 681-686

TOPIC TAGS: divinylacetylene, copolymerization, methyl acrylate, methyl methacrylate, styrene

ABSTRACT: The synthesis of a new monomer, trans-2, 3, 4, 5-tetrachlorohexa-1, 3, 5-triene (TCHT) was reported in an earlier paper by the senior author, and the present work was undertaken to study further its properties and to find its proper place among the monomers. The copolymerization of TCHT with methyl acrylate and methyl methacrylate was conducted in pyrex glass ampules at 70C, in the presence of 0.1 Mol% benzoyl peroxide. The resultant product was isolated by extraction with benzene and precipitation with ethanol. The investigation of these copolymers, as well as of the ones studied in the earlier paper, provided data for the determination of their reactivity ratios and permitted the calculation of the specific reactivity (Q = 1.52) and polarity (e = +0.6) values of TCHT by means of Alfrey-

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ACCESSION NR: AP3000694

Price's equation. On the basis of these figures, the behavior of TCHT in copolymerization reactions with various monomers is being predicted. Orig. art. has: 1 formula, 3 charts, and 7 figures.

ASSOCIATION: Institut organicheskoy khimii AN ArmSSR (Institute of Organic Chemistry, Academy of Sciences ArmSSR)

SUBMITTED: 16Oct61 DATE ACQ: 17Jun63 ENCL: 00

SUB CODE: CH NO REF SOV: 002 OTHER: 004

Card 2/2

APPROVED FOR RELEASE: 06/05/2000 CIA-RDP86-00513R000100710012-9"

"APPROVED FOR RELEASE: 06/05/2000 CIA-RDP86-00513R000100710012-9

KHREKYAN, G. Ye.; SINANYAN, E.G.; AKOPYAN, A.N.

Chemistry of divinylacetylene and its halo derivatives. Report No.15: Copolymerization of trans-2,3,4,5-tetrachloro-1,3,5-hexatriene with vinyl chloride and vinylidene chloride. Izv. AN Arm.SSR. Khim. nauki 16 no.2:145-150 '63 (MIRA 17:8)

1. Institut organicheskoy khimii AN ArmSSR.

APPROVED FOR RELEASE: 06/05/2000 CIA-RDP86-00513R000100710012-9"

"APPROVED FOR RELEASE: 06/05/2000 CIA-RDP86-00513R000100710012-9

AKOPYAN, A.N.; ASLAMAZYAN, V.S.

Divinylacetylene and its [redacted]o derivatives. Part 13: Adduct of cis-2,3,4,5-tetrachloro-1,3,5-hexatriene with methyl vinyl ketone, its sulfone, and their transformations. Zhur.ob.khim. 33 no.4: 1160-1164 Ap '63. (MIRA 16:5)

1. Institut organicheskiy khimii AN Armyanskoy SSR.
(Hexatrine) (Butenone) (Sulfone)

APPROVED FOR RELEASE: 06/05/2000 CIA-RDP86-00513R000100710012-9"

"APPROVED FOR RELEASE: 06/05/2000 CIA-RDP86-00513R000100710012-9

AKOPYAN, A.N.; ASLAMAZYAN, V.S.; ROSTOMYAN, I.M.

Chemistry of divinylacetylene and its halo derivatives. Part 14: Isomerization of trans-2,3,4,5-tetrachloro-1,3,5-hexatriene to a cis-modification with subsequent dimerization, diene synthesis, and sulfone formation. Zhur.ob.khim. 33 no.10:3143-3144 O '63. (MIRA 16:11)

1. Institut organicheskoy khimii AN Armyanskoy SSR.

APPROVED FOR RELEASE: 06/05/2000 CIA-RDP86-00513R000100710012-9"

"APPROVED FOR RELEASE: 06/05/2000 CIA-RDP86-00513R000100710012-9

KOCHARYAN, N.M.; AKOPYAN, A.N.; BARSAMYAN, S.T.; TOLAPCHYAN, L.S.; PIKALOVA, V.N.

Dielectric properties of chlorinated polytetrachlorohexatriene. Dokl. AN Arm. SSR 37 no.5:263-267 '63. (MIRA 17:9)

1. Chlen-korrespondent AN Armyanskoy SSR (for Kocharyan).

APPROVED FOR RELEASE: 06/05/2000 CIA-RDP86-00513R000100710012-9"

"APPROVED FOR RELEASE: 06/05/2000 CIA-RDP86-00513R000100710012-9

AKOPYAN, A.N.; ASLAMAZYAN, V.S.; ROSTOMYAN, I.M.

Chemistry of divinylacetylene and its halo derivatives. Part 16: Structure of polytetrachlorohexatriene and some of its reactions. Izv.AN Arm.SSR.Khim.nauki 17 no.1:55-61 '64. (MIRA 17:4)

1. Institut organicheskoy khimii AN Armyanskoy SSR.

APPROVED FOR RELEASE: 06/05/2000 CIA-RDP86-00513R000100710012-9"

"APPROVED FOR RELEASE: 06/05/2000 CIA-RDP86-00513R000100710012-9

AKOPYAN, A.N.; SAAKYAN, A.M.; DZHAVADYAN, E.A.

Chemistry of divinylacetylene and its halo derivatives. Part 17: Chlorination of polychlorobutadienes, chlorobenzene, and $\alpha\beta\beta$-trichlorostyrene initiated by vinylacetylenic hydrocarbons. Zhur. ob. khim. 35 no.1:51-52 Ja '65. (MIRA 18:2)

1. Institut organicheskoy khimii AN Armyanskoy SSR.

APPROVED FOR RELEASE: 06/05/2000 CIA-RDP86-00513R000100710012-9"

"APPROVED FOR RELEASE: 06/05/2000 CIA-RDP86-00513R000100710012-9

NALIVKIN, D.V., akademik, glav. red.; BELYAYEVSKIY, N.A., zam. glav. red.; TIKHOMIROV, V.V., zam. glav. red.; ASSOVSKIY, A.N., red.; MEL'NIKOV, O.D.,red.; SHATSKIY, N.S., akademik, red.[deceased]; YANSHIN, A.L., akad., red.; AKOPYAN, A.O., red.; ASLANYAN, A.T., red.; GOGINYAN, V.Ye., red.; GULYAN, E.Kh., red.; KAZARYAN, S.V., red.; MALKHASYAN, E.G., red.; KHACHATURYAN, E.A., red.; GOVORKYAN, L.M., red.vypuska; VARTANESOVA, A.A., red. izd-va; SAROYAN, P.A., tekhn. red.

[Study of the geology of the U.S.S.R.] Geologicheskaia izuchennost' SSSR. Erevan, Izd-vo Akad. nauk Armianskoi SSR.Vol.48.[Armenian S.S.R.; period of 1951-1955] Armianskaia SSR; period 1951-1955. No.1.[Published studies] Opublikovannye raboty. 1961. 127 p. (MIRA 14:9)

(Armenia--Geology)

APPROVED FOR RELEASE: 06/05/2000 CIA-RDP86-00513R000100710012-9"

"APPROVED FOR RELEASE: 06/05/2000 CIA-RDP86-00513R000100710012-9

AKOP'YAN, A.S., red.; CHEPUR, B.D., red.

[Index of technical specifications for the Ukrainian S.S.R. as of January 1, 1961]Ukazatel' respublikanskikh tekhnicheskikh uslovii USSR; po sostoianiiu na 1 ianvaria 1961 goda. Izd. ofitsial'noe. Kiev, Otdel novoi tekhniki nauchno-issl. i proektnykh organizatsii. Podotdel standartov, 1961. 73 p. (MIRA 15:12)

1. Ukraine. Gosudarstvennaya planovaya komissiya.
(Ukraine—Standards, Engineering)

APPROVED FOR RELEASE: 06/05/2000 CIA-RDP86-00513R000100710012-9"

"APPROVED FOR RELEASE: 06/05/2000 CIA-RDP86-00513R000100710012-9

Development and propagation of the trachoma virus and the nature of intracellular occlusions

Morphological exam

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"APPROVED FOR RELEASE: 06/05/2000 CIA-RDP86-00513R000100710012-9

AVAKYAN, A.A.; AKOPYAN, A.T.; BUSNYUK, M.M.

Phase contrast microscopy in virusology. Biofizika 1 no.4:383-386 '56. (MLRA 9:9)

1. Institut virusologii imeni D.I.Ivanovskogo AMN SSSR, Moskva.
(PHASE MICROSCOPE) (VIRUS RESEARCH)

APPROVED FOR RELEASE: 06/05/2000 CIA-RDP86-00513R000100710012-9"

"APPROVED FOR RELEASE: 06/05/2000 CIA-RDP86-00513R000100710012-9

AKOPYAN, A.T.; PUKHNER, A.F.

Effect of synthomycin, levomycetin, and biomycin on superinfection associated with the trachomatous process. Zhur.mikrobiol.epid. i immun. 28 no.3:114-117 Mr '57. (MLRA 10:6)

1. Iz Instituta virusologii imeni D.I.Ivanovskogo Akademii meditsinskikh nauk SSSR.

(TRACHOMA, complications
superinfect., ther. chloramphenicol & oxytetracycline (Rus))
(OXYTETRACYCLINE, therapeutic use,
trachoma with superinfect. (Rus))
(CHLORAMPHENICOL, therapeutic use,
same)

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"APPROVED FOR RELEASE: 06/05/2000 CIA-RDP86-00513R000100710012-9

EXCERPTA MEDICA Sec 5 Vol 12/10 General Path Oct 59

3187. EXPERIMENTAL DATA ON THE STUDY OF THE PEMPHIGUS PATHOGEN IN THE DEVELOPING CHICK EMBRYO (Russian text) - Akopyan A. T., Rakhmanovich E. M., Avakyan A. A., Ovchinnikov N. M., Zalkan P. M., Jevleva E. A., Ivanova N. K. and Zertsalova G. I. - VESTN. VENER. I DERM. 1958, 32/4 (3-9) Tables 1 Illus. 3

Samples of blood serum and the contents of bullae from 40 patients (32 with pemphigus vulgaris, 1 with pemphigus foliaceus, 1 with congenital pemphigus and 6 with dermatitis herpetiformis) were inoculated into the chorio-allantoic membranes of chick embryos. In 60%, changes developed on the skin surface of the embryos (small haemorrhages and blisters). The possibility of bacterial genesis of these changes was excluded by means of specific examinations. These characteristic changes developed between the 1st and 4th passages, and disappeared after the 6th passage. When pre-heated inoculation material was used, the changes in the embryos remained absent or were insignificant. Control experiments, using serum and contents of bullae from patients with other dermatoses and from healthy subjects, were negative.

Bielický - Prague (XIII, 5)

APPROVED FOR RELEASE: 06/05/2000 CIA-RDP86-00513R000100710012-9"

"APPROVED FOR RELEASE: 06/05/2000 CIA-RDP86-00513R000100710012-9

OVCHINNIKOV, N.M.; AKOPYAN, A.T.; SMELOV, N.S.; RAKHMALEVICH, E.M.; BELYAYEVA, E.F.; ZERTSALOVA, G.N.; ZALKIN, N.M.; REZNIKOVA, L.S.; AVAKYAN, A.A.

Data on the etiology of pemphigus. Borgyogy. vener. szemle 36 no.5: 193-200 S '60.

1. Az Orosz Szocialista Szovetsegi Koztarsasag Egeszsegugyi Miniszteriuma Kozponti Bor-Nemikortani Intezetenek (Igazgato: Turanov N.M., az orvostudomanyok kandidatusa es a Poliomyelitis-kutato Intezet (Igazgato: prof. Csumakov M.I., a Szovjet Tudomanyos Akademia levelezo tagja) kozlemenye.
(PEMPHIGUS etiol)

APPROVED FOR RELEASE: 06/05/2000 CIA-RDP86-00513R000100710012-9"

"APPROVED FOR RELEASE: 06/05/2000 CIA-RDP86-00513R000100710012-9

AKOPYAN, A.T.; AVAKYAN, A.A.

Morphological study of pemphigoid cells. Vest. derm. i ven. 37 no.6:9-12 Je '63. (MIRA 17:6)

1. Mikrobiologicheskiy otdel (zav. - prof. N.M. Ovchinnikov) TSentral'nogo nauchno-issledovatel'skogo kozhno-venerologicheskogo instituta (dir. N.M. Turanov).

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"APPROVED FOR RELEASE: 06/05/2000 CIA-RDP86-00513R000100710012-9

AKOPYAN, A.H.

Overvoltage of cathodic reduction of oxygen and the energy of activation corresponding to electrochemical processes. Izv. AN Arm.SSR. Khim.nauki 11 no.3:141-152 '58. (MIRA 11:11)

1. Yerevanskiy politekhnicheskiy institut imeni K.Marksa, Kafedra fiziki.
(Overvoltage) (Oxygen) (Reduction, Electrolytic)

APPROVED FOR RELEASE: 06/05/2000 CIA-RDP86-00513R000100710012-9"

"APPROVED FOR RELEASE: 06/05/2000 CIA-RDP86-00513R000100710012-9

SOV/76-33-7-26/40

5(4)
AUTHOR: Akopyan, A. U.

TITLE: Overvoltage of the Cathodic Reduction of Oxygen and the Activation Energy of the Corresponding Electrochemical Processes

PERIODICAL: Zhurnal fizicheskoy khimii, 1959, Vol 33, Nr 7, pp 1625 - 1631 (USSR)

ABSTRACT: The process of the cathodic reduction of oxygen (I) proceeds in two stages on various electrodes in alkaline and acid medium (Refs 1,8,9). Since investigations have hitherto been carried out at room temperature, the author made here experiments in acid (1.0158 n H_2SO_4) and alkaline (1 n NaOH) medium at 0, 20, 40 and 60°C by means of mercury, platinum, gold, and silver electrodes. An apparatus (Fig 1) was used and the electrode potential was measured by means of a highly resistive direct-current potentiometer PPT-1 according to a compensation scheme. The Hg electrode had a surface of 5 cm^2, the other electrodes one of 2.5 cm^2. The resultant curves of the dependence of the overvoltage (η) upon the logarithm of density current (lg i) show (for both media) two segments. Both segments may be described by Tafel's equation (8); they have, however, different

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values of the constants a (Table 1) and b. The first segment of the curves η, lg i is assumed to correspond to the reduction of (I) to hydrogen peroxide, and the second segment to the formation of water. The values of b indicate that the first segment in alkaline medium corresponds to a concentration polarization. Otherwise apparently electrochemical polarization takes place (Table 2). According to the results of measurement, the author calculated by an equation (16) the values of the activation energy (A) of cathodic reduction of I (Table 3) as well as of the corresponding pre-exponential factor B (equations (17), (18), Table 4). A and B are only little dependent on the type of cathode. In conclusion, the author thanks Professor B. N. Kabanov and Professor M. I. Temkin for their assistance. There are 3 figures, 4 tables, and 16 references, 15 of which are Soviet.

ASSOCIATION: Yerevanskiy politekhnicheskiy institut im. K. Marksa (Yerevan Polytechnic Institute imeni K. Marx)

SUBMITTED: January 1o, 1958

APPROVED FOR RELEASE: 06/05/2000 CIA-RDP86-00513R000100710012-9"

"APPROVED FOR RELEASE: 06/05/2000 CIA-RDP86-00513R000100710012-9

AKOPYAN, A. U.

Cand Chem Sci, Diss -- "Oxygen cathode reduction overvoltage and the activation energy of related electrochemical processes". Yerevan, 1961. 16 pp, 21 cm (Min of Higher and Inter Spec Educ USSR. Inst of Electrochem, Acad of Sci USSR), 200 copies, Not for sale (KL, No 9, 1961, p 176, No 24271). /61-52388/

APPROVED FOR RELEASE: 06/05/2000 CIA-RDP86-00513R000100710012-9"

"APPROVED FOR RELEASE: 06/05/2000 CIA-RDP86-00513R000100710012-9

AKOPYAN, A.V.; KARAPETYAN, V.A.

Experimental study of the rigidity of reinforced tufferete beams under the prolonged action of loads. Izv. AN Arm. SSR. Ser. tekh. nauk 17 no. 4:77-82 '64. (MIRA 17:11)

1. Armyanskiy nauchno-issledovatel'skiy institut stroitel'nykh materialov i sooruzheniy.

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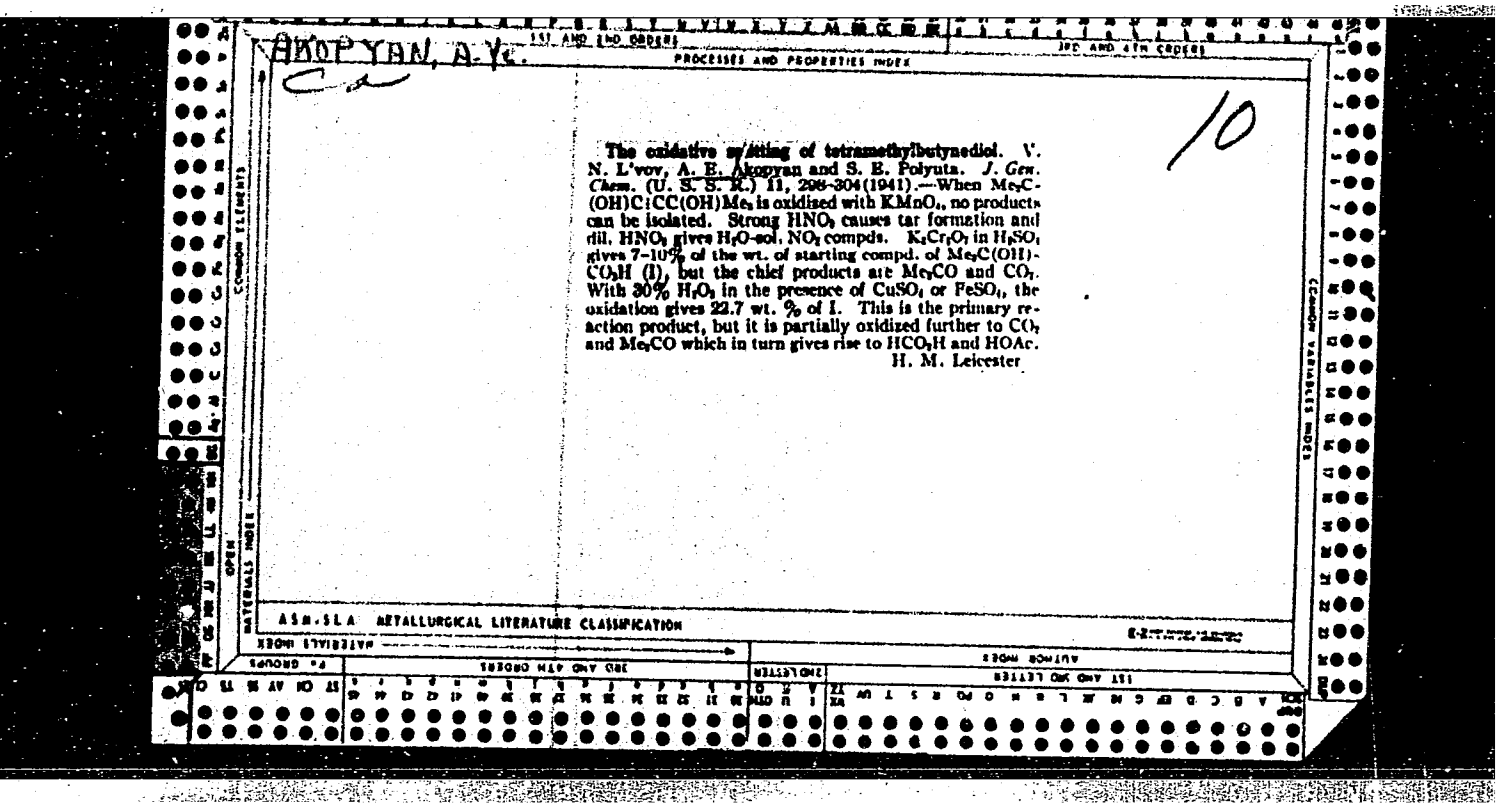

AKOPYAN, A. V.

10

The oxidative splitting of tetramethylbutynediol. V. N. L'vov, A. E. Akopyan and S. E. Polyuta. *J. Gen. Chem.* (U. S. S. R.) 11, 298-304 (1941).—When $Me_2C(OH)C{:}CC(OH)Me_2$ is oxidized with $KMnO_4$, no products can be isolated. Strong HNO_3 causes tar formation and dil. HNO_3 gives H_2O-sol. NO_2 compds. $K_2Cr_2O_7$ in H_2SO_4 gives 7–10% of the wt. of starting compd. of $Me_2C(OH)CO_2H$ (I), but the chief products are Me_2CO and CO_2. With 30% H_2O_2 in the presence of $CuSO_4$ or $FeSO_4$, the oxidation gives 22.7 wt. % of I. This is the primary reaction product, but it is partially oxidized further to CO_2 and Me_2CO which in turn gives rise to HCO_2H and HOAc.

H. M. Leicester

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"APPROVED FOR RELEASE: 06/05/2000 CIA-RDP86-00513R000100710012-9

AKOPYAN, A. Ye.

Akopyan, A. Ye. - " Complex compounds of acetone sulfite with aromatic amines," Izvestiya (Akad. mauk Arm. SSR), Fiz.-matem., yestestv. i tokhn. mauke, 1948, No. 3, p. 275-79--- Summary in Armenian --- Bibliog: p. 278

So: U-3566, 15 March 53, (Letopis 'Zhurnal 'nykh Statey, No. 13, 1949)

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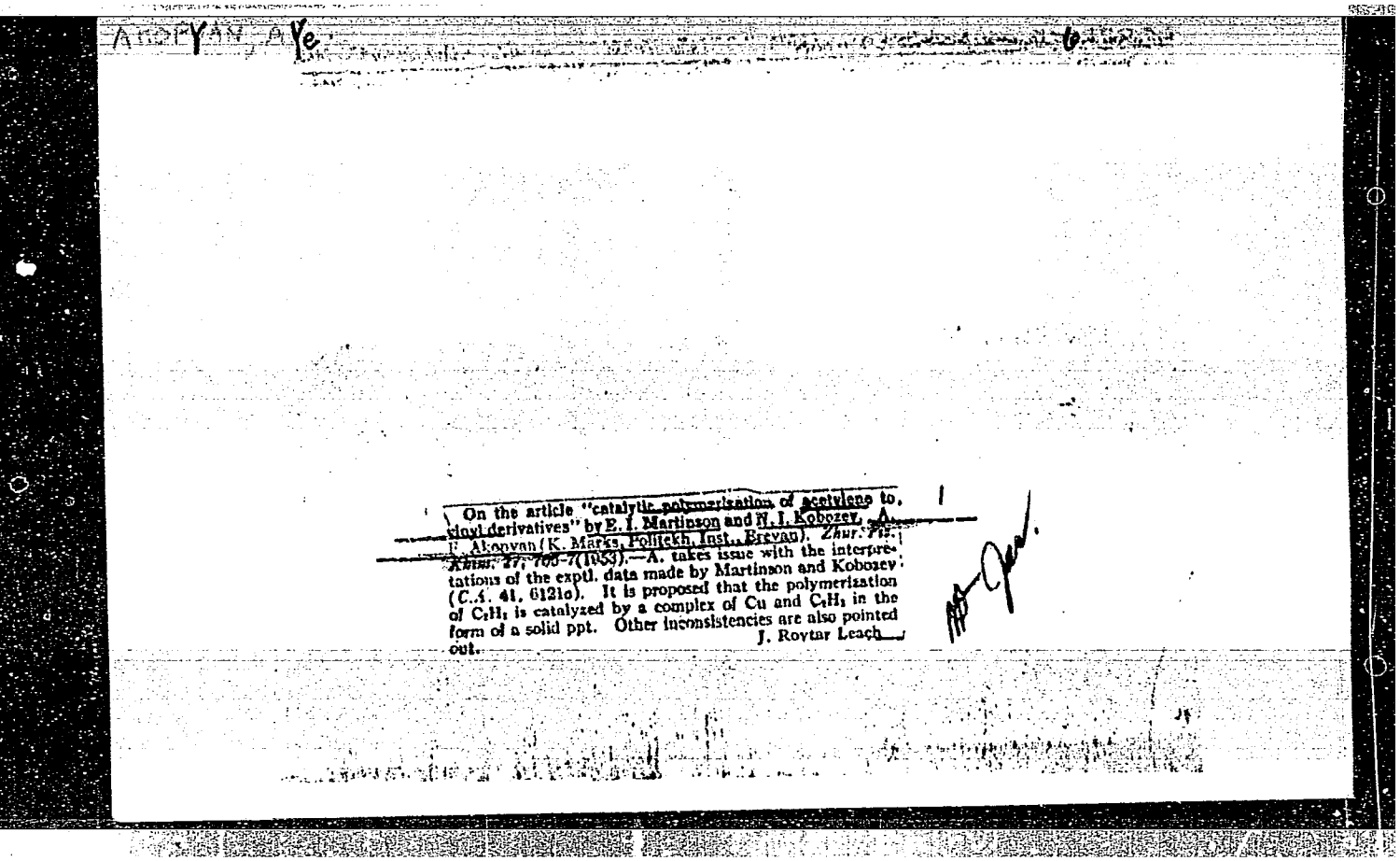

ARUTYAN A.Ye.

On the article "catalytic polymerisation of acetylene to vinyl derivatives" by E. I. Martinson and N. I. Kobozev. A. E. Arutyan (K. Marx Polytekh. Inst., Erevan). *Zhur. Fiz. Khim.* 27, 700–7(1953).—A. takes issue with the interpretations of the exptl. data made by Martinson and Kobozev (*C.A.* 41, 6121o). It is proposed that the polymerization of C_2H_2 is catalyzed by a complex of Cu and C_2H_2 in the form of a solid ppt. Other inconsistencies are also pointed out.

J. Roytar Leach

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"APPROVED FOR RELEASE: 06/05/2000 CIA-RDP86-00513R000100710012-9

AKOPIAN, A.B.

Kinetics of the reaction of dichloroheradiene
A. B. Akopian
The author of the

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"APPROVED FOR RELEASE: 06/05/2000 CIA-RDP86-00513R000100710012-9

AKOPYAN, A.Ye.

optimum concn. of C_6H_6 is 20%. ... 70° accelerates the reaction, but ... temp. decelerates the reaction. Continuous ... dry HCl and $(ClCH:CH_2)_2$ into the catalyst layer with removal of the dichlorohexadiene on a continuous basis permits a yield of about 75% to be realized. In xylene soln. there is no evident decrease of the reaction rate. ...

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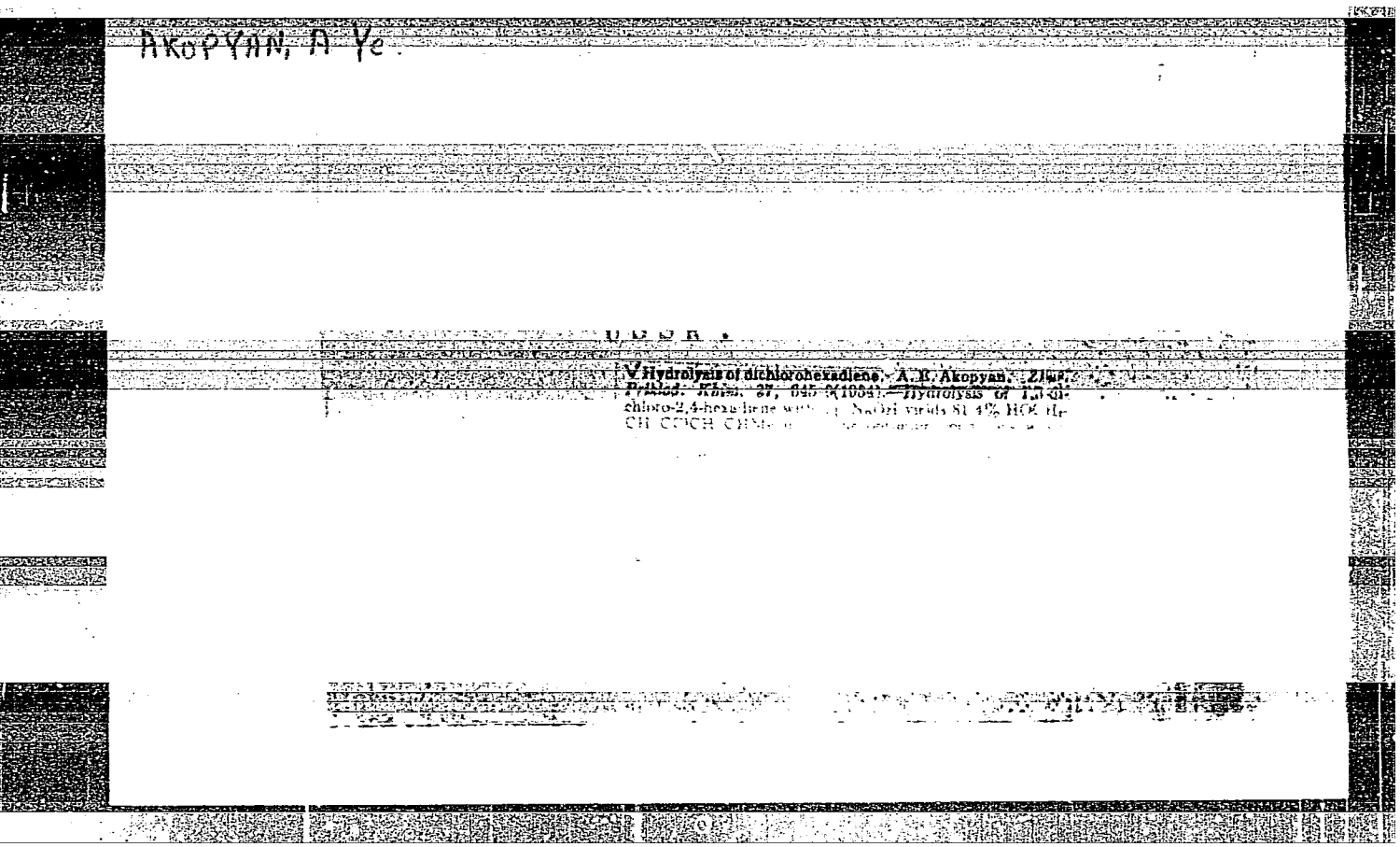

AKOPYAN, A Ye.

U S S R

Hydrolysis of dichlorohexadiene. A. E. Akopyan. Zhur. Prikład. Khim. 27, 945-8(1954).—Hydrolysis of 1,3-dichloro-2,4-hexadiene with NaOH yields 81.4% HOCH CH:CClCH:CHCl

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AKOPYAN, A Ye

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AKOPYAN, A. Ye.

AKOPYAN, A. Ye.: "The synthesis of certain diene compounds from divinyl acetylene and their polymerization." Min Higher Education USSR. Yerevan State U imeni V. M. Molotov. Yerevan, 1955. (DISSERTATION FOR THE DEGREE OF DOCTOR IN CHEMICAL SCIENCE)

So.: Knizhnaya letopis' No 15, 1956, Moscow

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AKOPYAN, A. Ye.

AID P - 1583

Subject : USSR/Chemistry

Card 1/1 Pub. 152 - 13/21

Author : Akopyan, A. Ye.

Title : Polymerization of 3-chloro-2, 4-hexadien-1-ol and of its ethers

Periodical : Zhur. prikl. khim., 28, no.1, 94-97, 1955

Abstract : The rate of polumerization of substituted 1,3-dichloro-2, 4-hexadiene is influenced by the substituent. 74.80% of 3-chloro-2,4-hexadien-1-ol are polymerized in 6 days; 90.25% of the phenyl ether are polymerized in 3 days. One table, 6 references (5 Russian: 1938-54)

Institution: Yerevan' Polytechnic Institute (im. K. Marx)

Submitted : My 21, 1953

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Акопян, А. Е.

AKOPYAN, A.Ye.; KOSOYAN, Zh.A.; VARDANYAN, V.V.

The chlorination of dichlorohexadiene and the dehydrochlorination of the reaction products. Zhur.ob.khim. 26 no.6:1621-1625 Je '56. (MIRA 11:1)

(Hexadiene) (Chlorination)

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"APPROVED FOR RELEASE: 06/05/2000 CIA-RDP86-00513R000100710012-9

AKOFYAN, A. YE.

Category: USSR/Chemistry of High-Molecular Substances F.

Abs Jour: Referat Zhur-Khimiya, No 9, 1957, 30896

Author : Akopyan A. Ye.
Inst : not given
Title : Kinetics of Copolymerization of Chloroprene and Chlorohexadienol

Orig Pub: Zh. prikl. khimii, 1956, 29, No 2, 282-288

Abstract: Study of separate and conjoint polymerization of chloroprene (I) and chlorohexadienol (II) at 30, 40 and 50°. It was found that polymerization of I is of autocatalytic nature, whereas polymerization of II occurs at a constant rate up to a considerable extent of the conversion; total energy of activation of polymerization of I is of 18.0 kcal/mole, that of II is 18.25 kcal/mole. Rate of conjoint polymerization of these monomers exceeds considerably the rate of their separate polymerization, and on elevation of the temperature the rate maximum is shifted toward lower concentrations of II. From data

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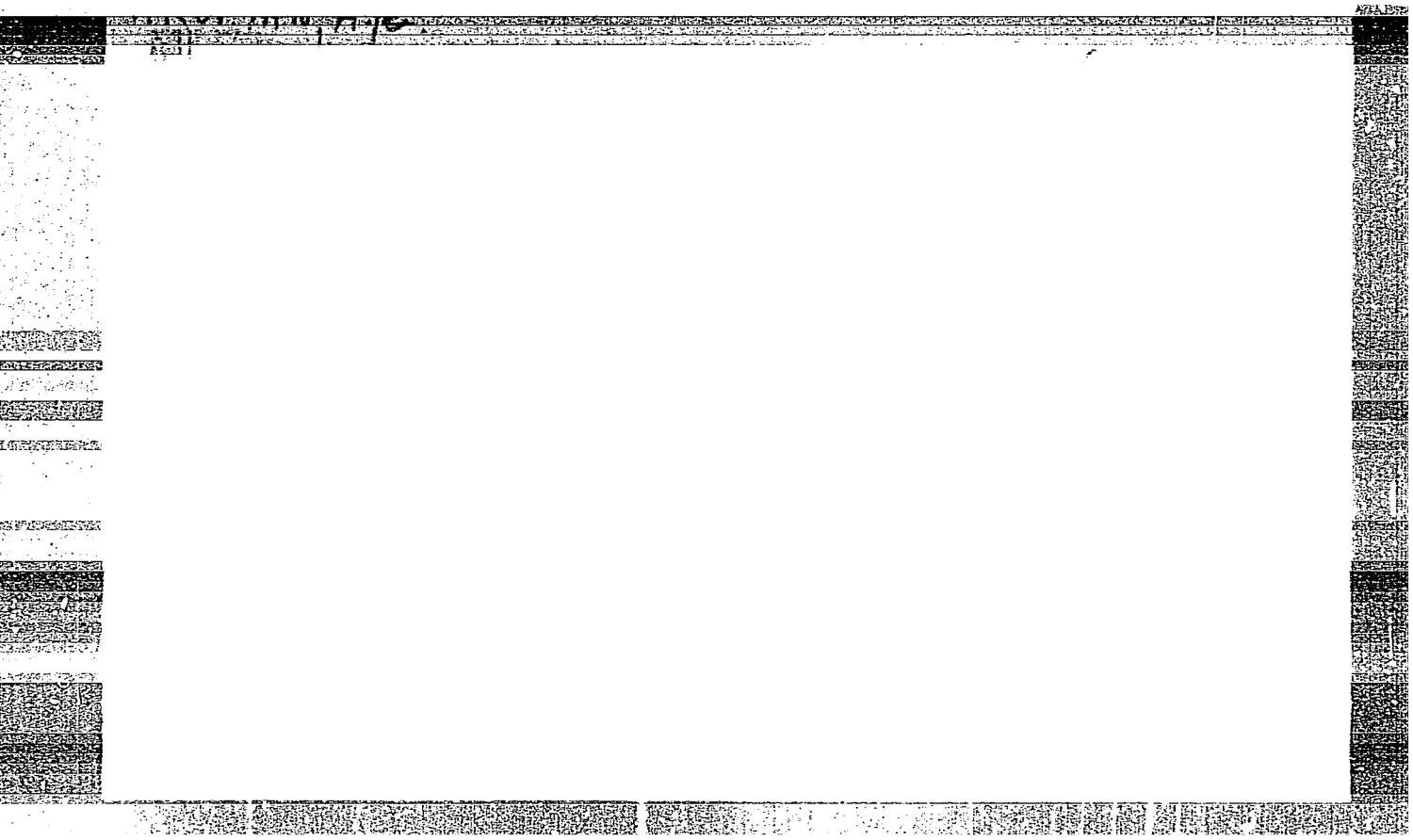

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AKOPYAN, A. Ye., Doc Tech Sci (diss) -- "Monomers based on divinyl acetylene, and their polymerization". Leningrad, 1959. 20 pp (Min Higher and Inter Spec Educ RSFSR, Leningrad Order of Labor Red Banner Tech Inst im Leningrad Soviet), 200 copies (KL, No 10, 1960, 129)

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